Evidence-Based Behavioral Health Integration

A New Perspective on Chronic Care

Erik Vanderlip MD MPH
Assistant Professor
University of Oklahoma School of Community Medicine
Medical Informatics and Psychiatry

Disclosures: With respect to the following presentation, **I have no** financial or monetary conflicts of interest, pharmaceutical industry ties or Swiss bank accounts. I will not be discussing the use of any off-label treatments, therapies, medical devices or scooters. I won't be discussing drugs to make people feel better. I'll be discussing people making people feel better. I don't own any people. My wife owns me.

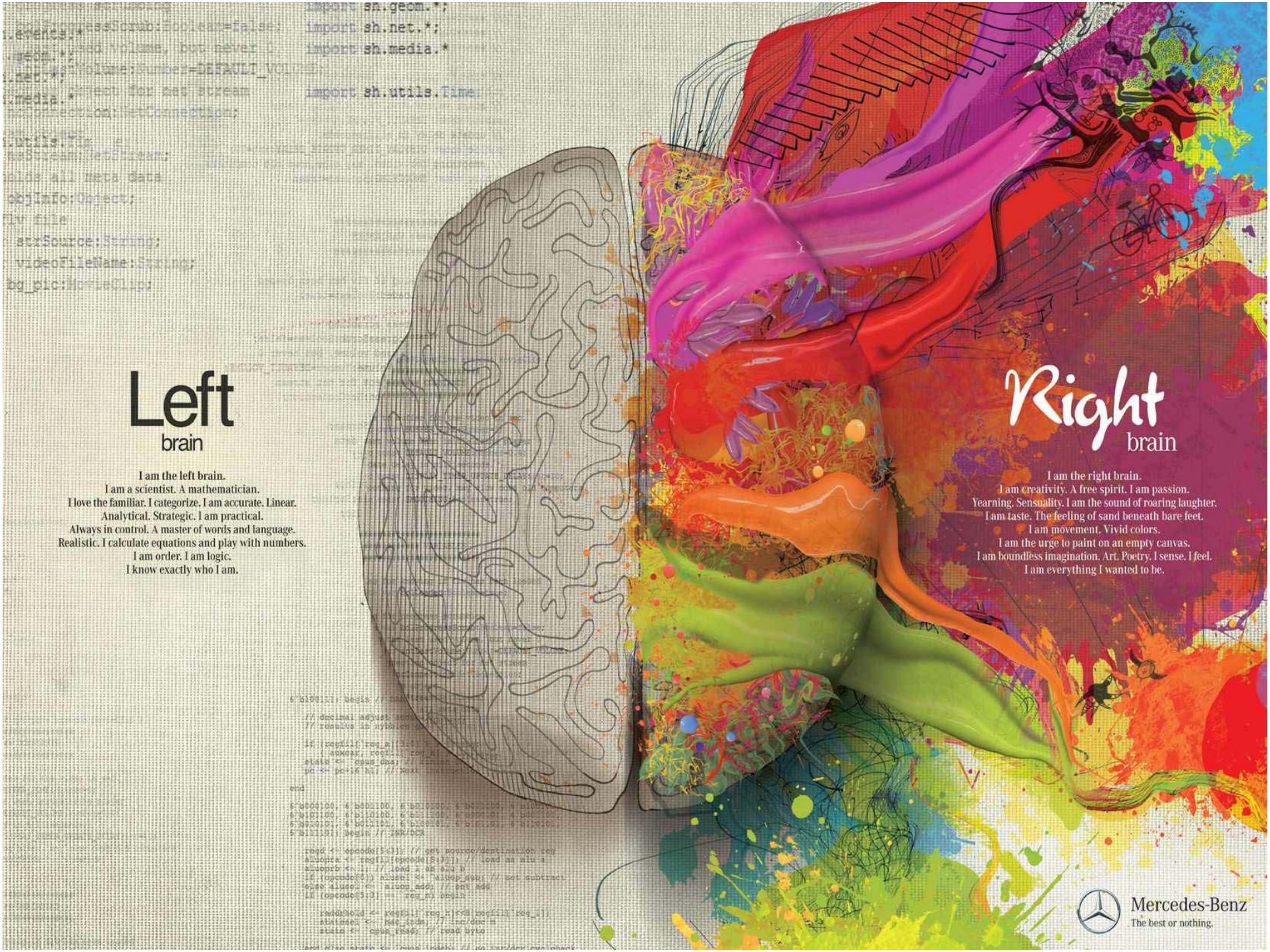
my bosses…

Who am I?

Roots: Me and Gerry Clancy, Oklahoma

UNIVERSITY OF IOWA HOSPITALS & CLINICS

University of Iowa Health Care



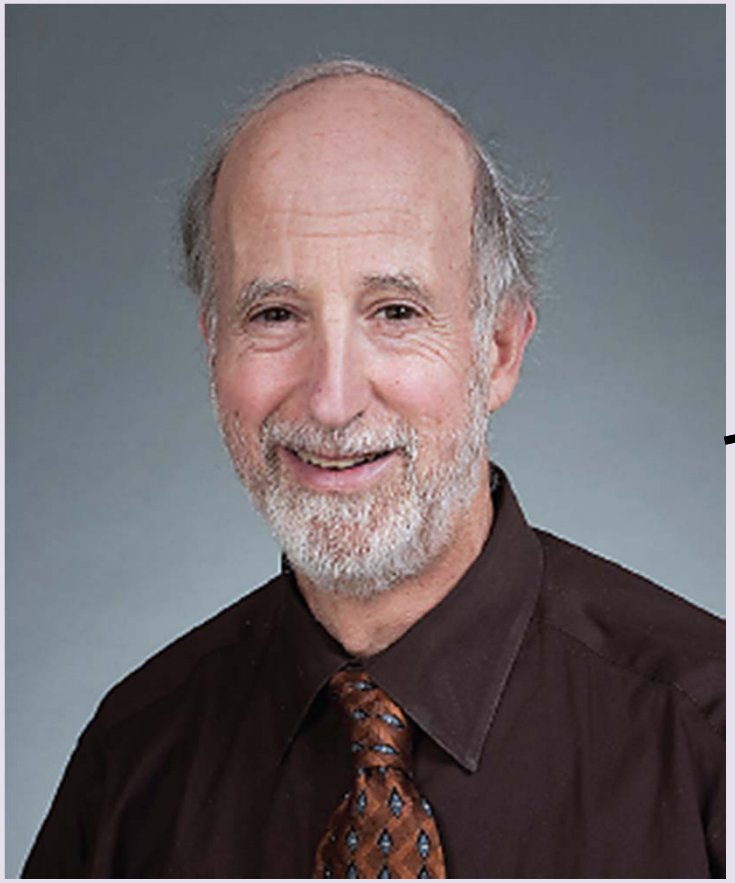
Erik Vanderlip

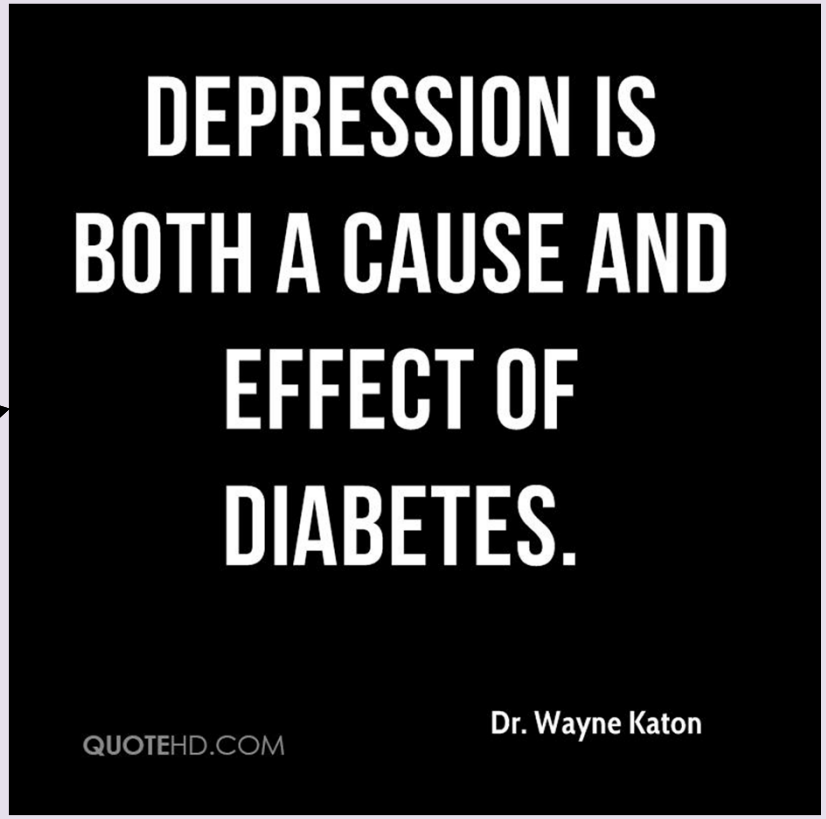
American, 1979 – Present

Integration of Primary Care and Behavioral Health, 2011

Finger on iPad

Exhibit 1

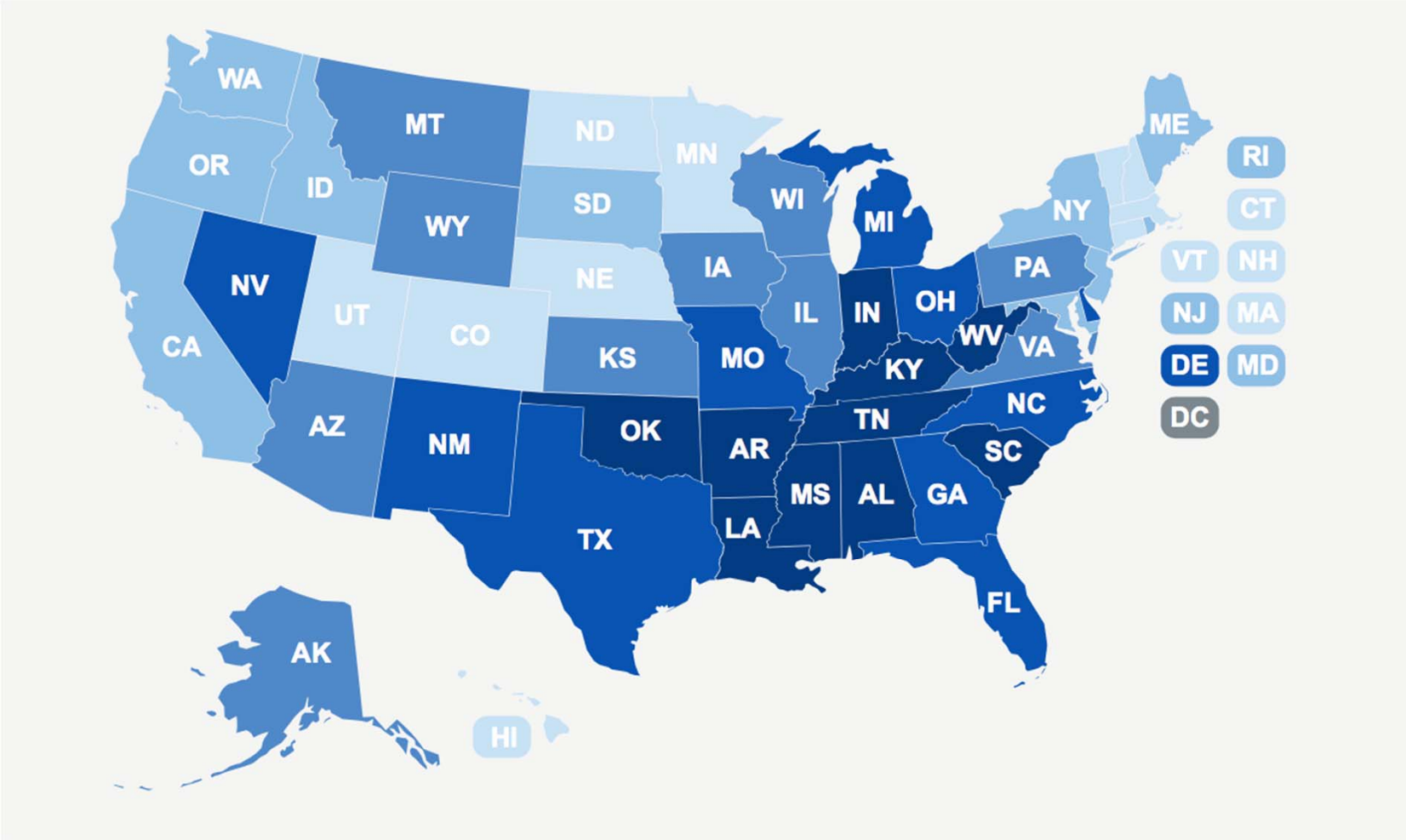




Wayne Katon, MD
Professor of Psychiatry
Director of Health Services and Epidemiology
University of Washington, Seattle

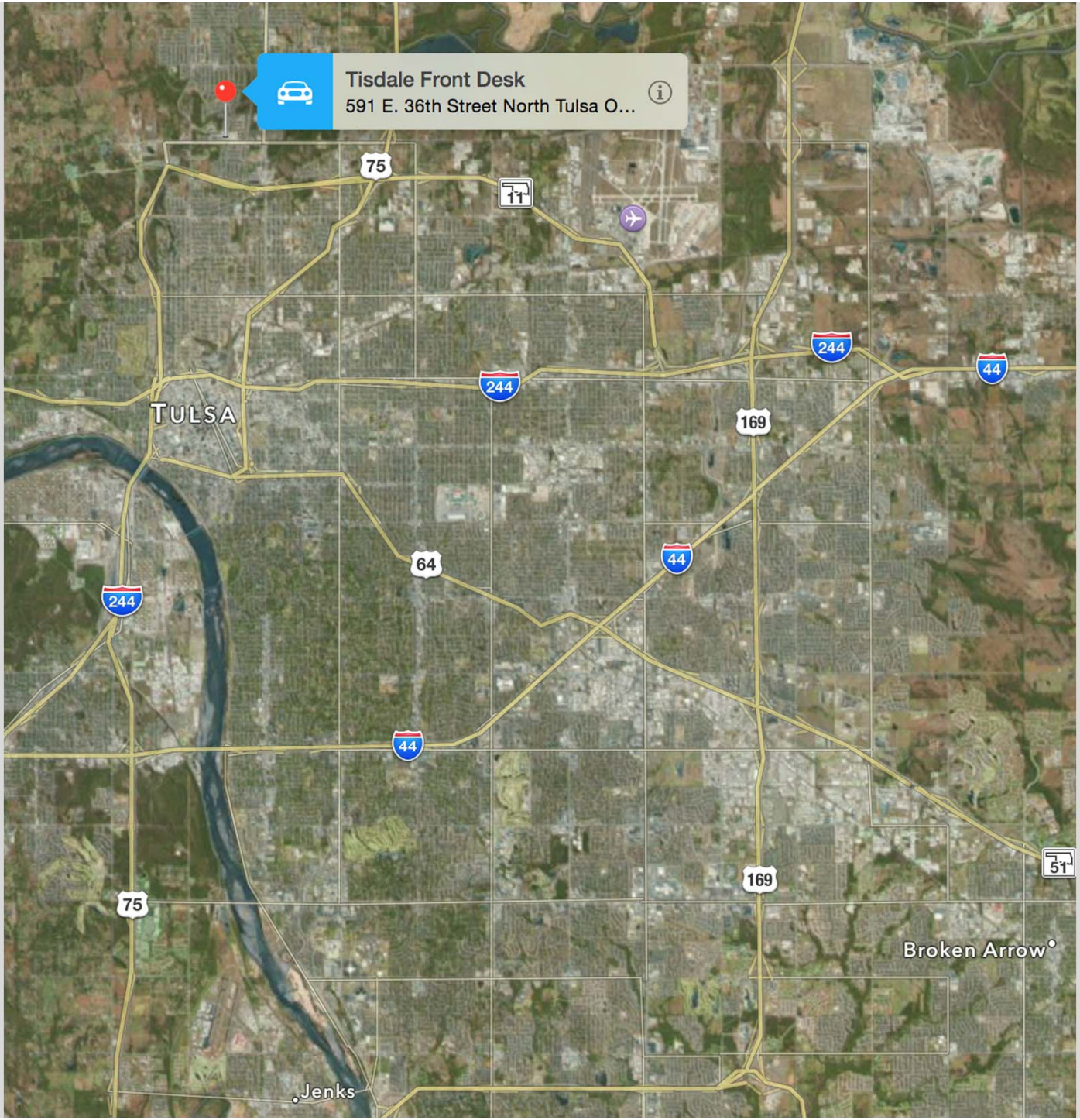
http://psychnews.psychiatryonline.org/newsarticle.aspx?articleid=1722860

us and them



http://www.americashealthrankings.org/states

Waymon Tisdale



Who am I?

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What are some current models for better integrating mental health and primary care services?

…the most effective talks seem to be those that emphasize practical issues with bottom-line advice...

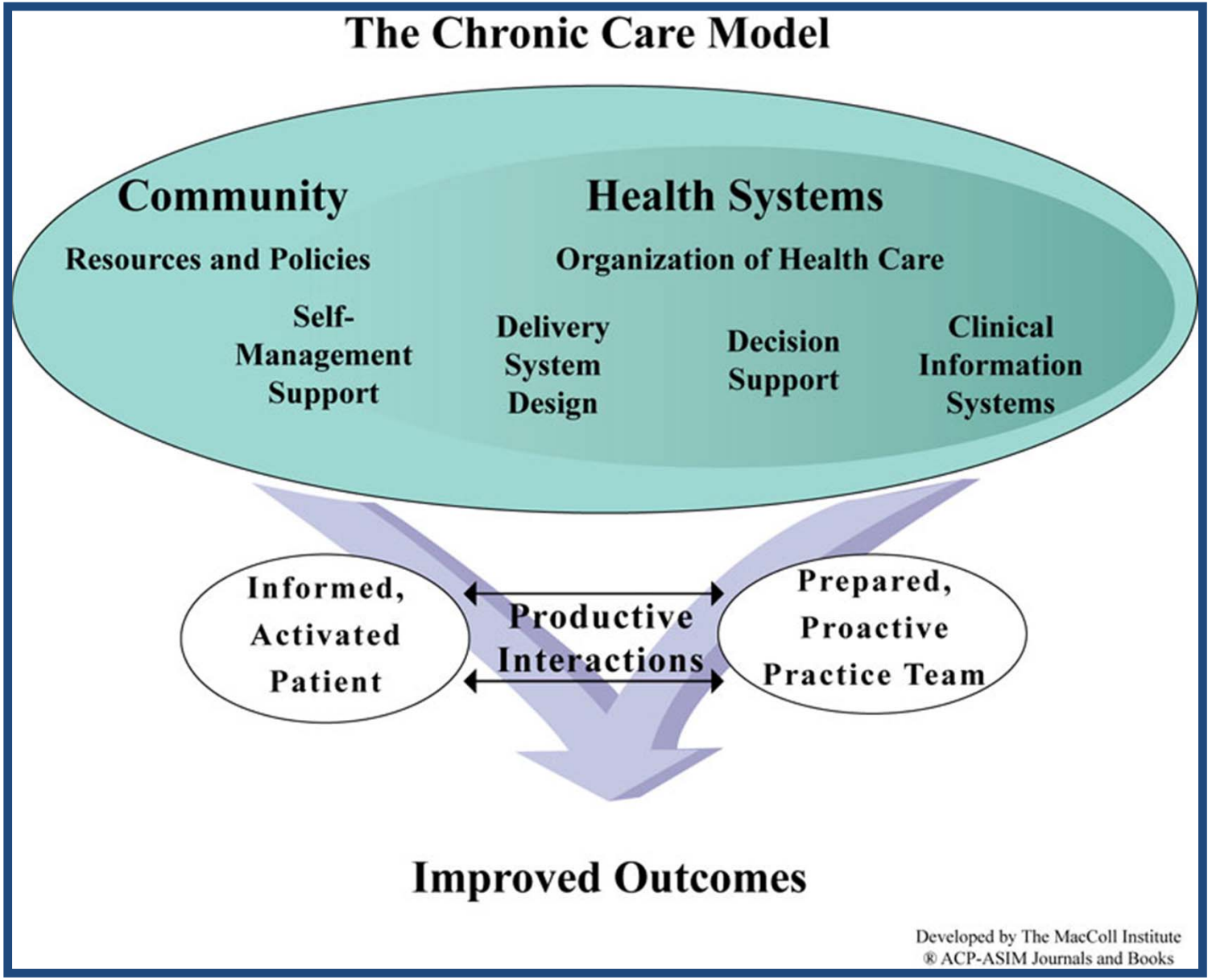
Objectives

1

2

I have 2 objectives with this talk.

1



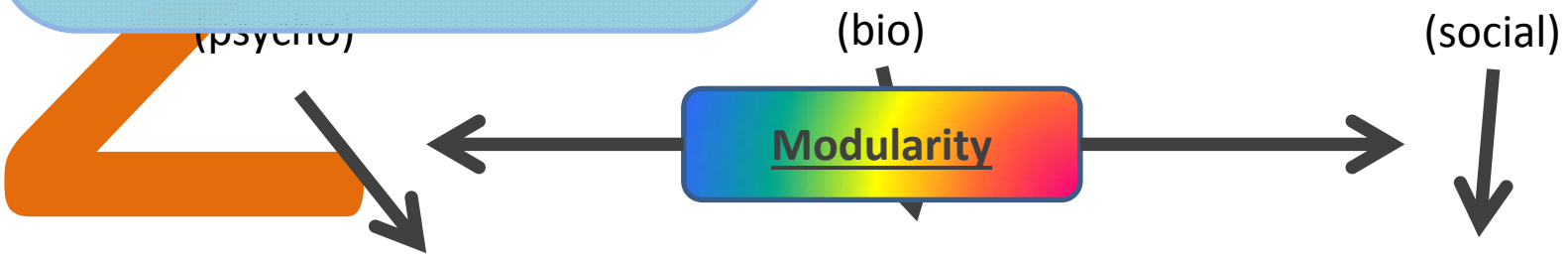
Bodenheimer, T., Wagner, E. H., & Grumbach, K. (2002). JAMA. 288(14), 1775–9.

What's in the (final) Mix?

1) **Applicable**: Common problems
2) **Disable**: Directly Effect Health/QoL
3) **Relatable**: Interdependent
4) **Changeable**: Treatment Exists
5) **Doable**: "*Measurable, Screenable, Trackable, Reliable*"

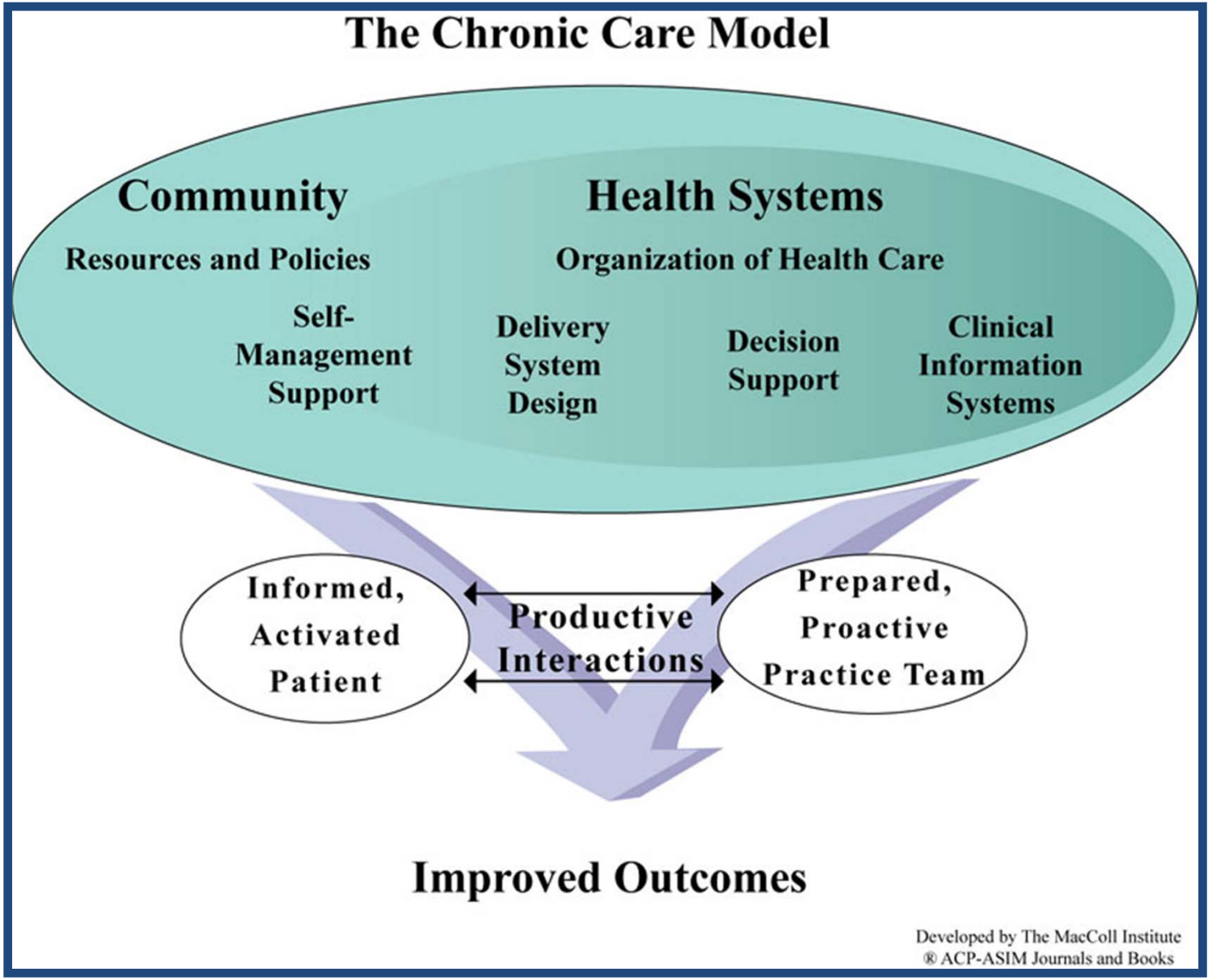
Biological:
A1c
SBP
LDL
BMI
Viral Load
FT/FEV/Peak Flow
in Questionnaire?

Sociological:
Residential Time-Line Feed-Back Scale
Employment Measure
WHO-DAS
Legal
Financial
Interpersonal Relations
Social Support Questionnaire
Recovery Instrument (Milestones)
Patient-Developed Scales



Patient	PHQ-9	Cigs/Day	A1c	SBP	LDL	Housing Status	Recovery Scale
B Obama	**20**	**20**	6.3	131	105	**55**	13
M Romn	5	0	5.5	140	**138**	25	10
G Wash	10	10	**10.0**	100	100	10	10

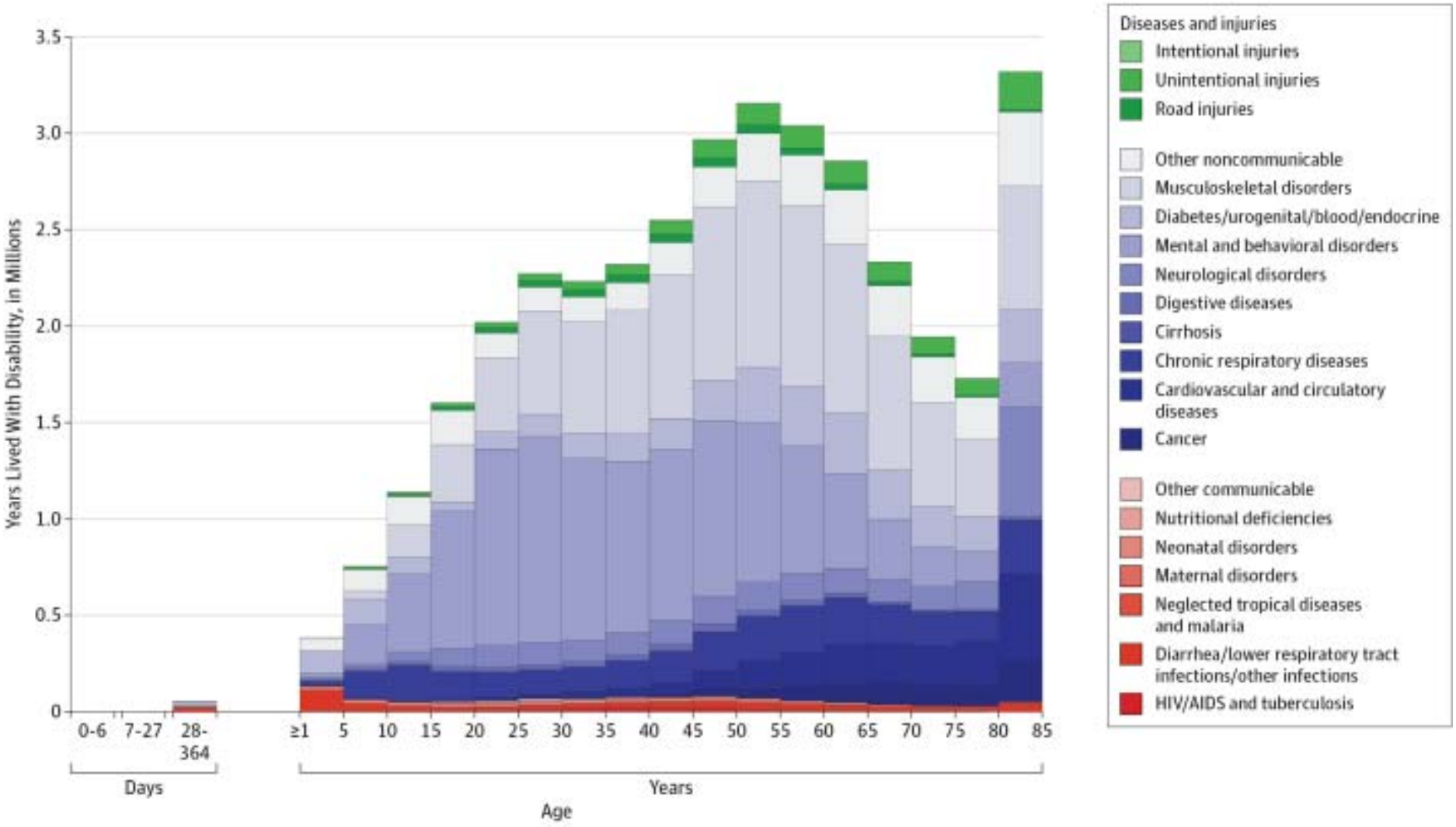
1



Bodenheimer, T., Wagner, E. H., & Grumbach, K. (2002). JAMA. 288(14), 1775–9.

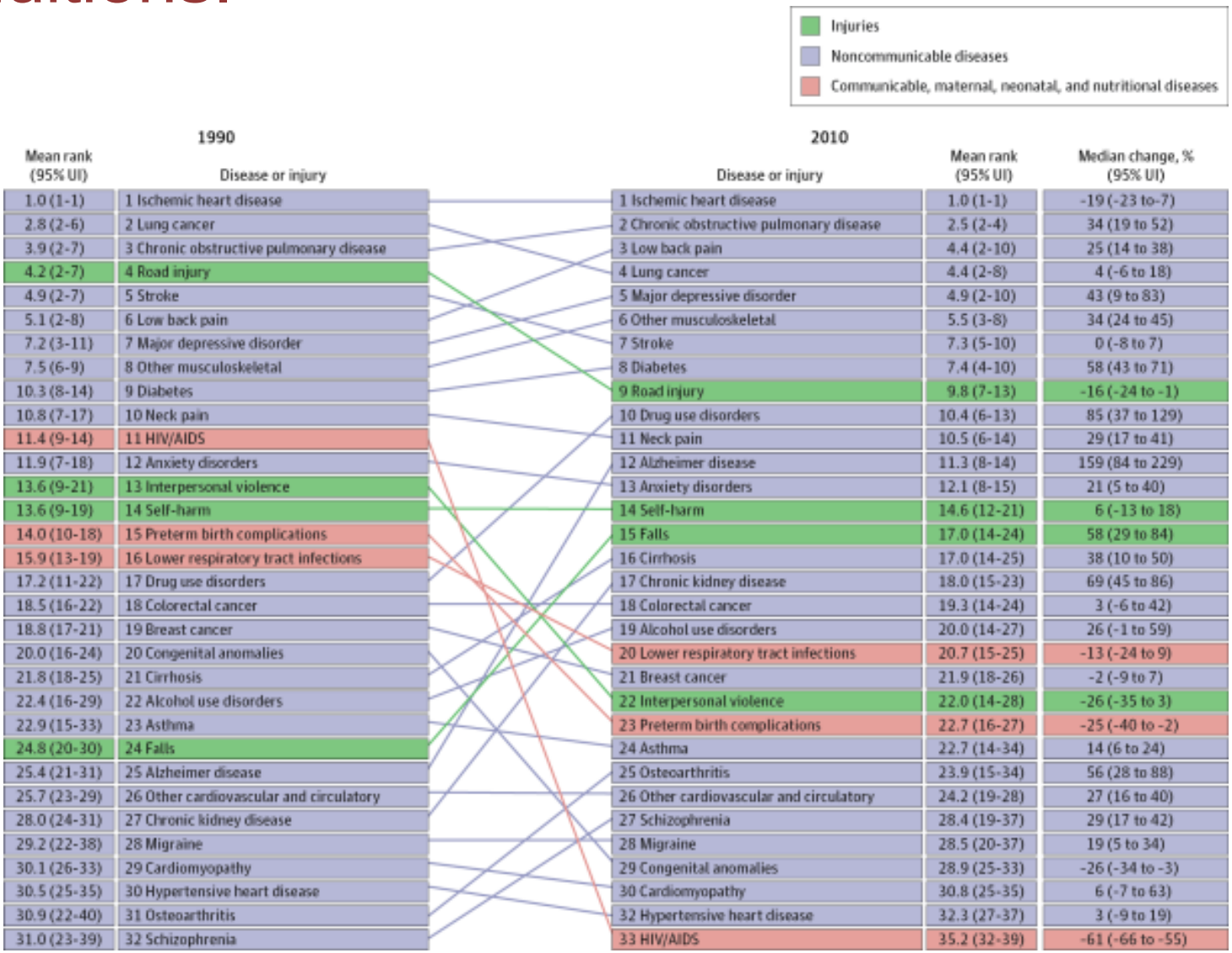
1 Why discuss the chronic care model?

We are living with and dying of chronic conditions.



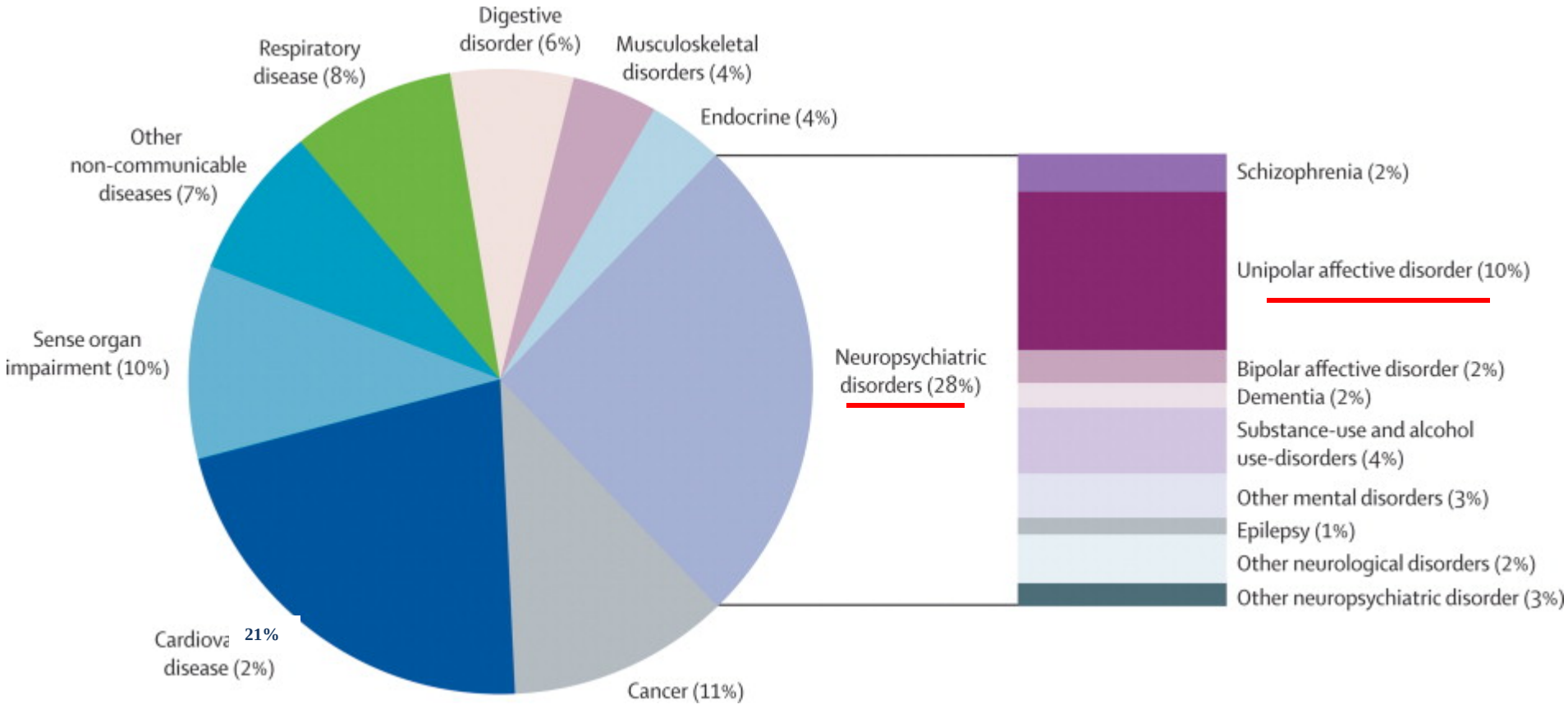
1. US Burden of Disease Collaborators, JAMA 2013; 310.

We are living with and dying of chronic conditions.



1. US Burden of Disease Collaborators, JAMA 2013; 310.

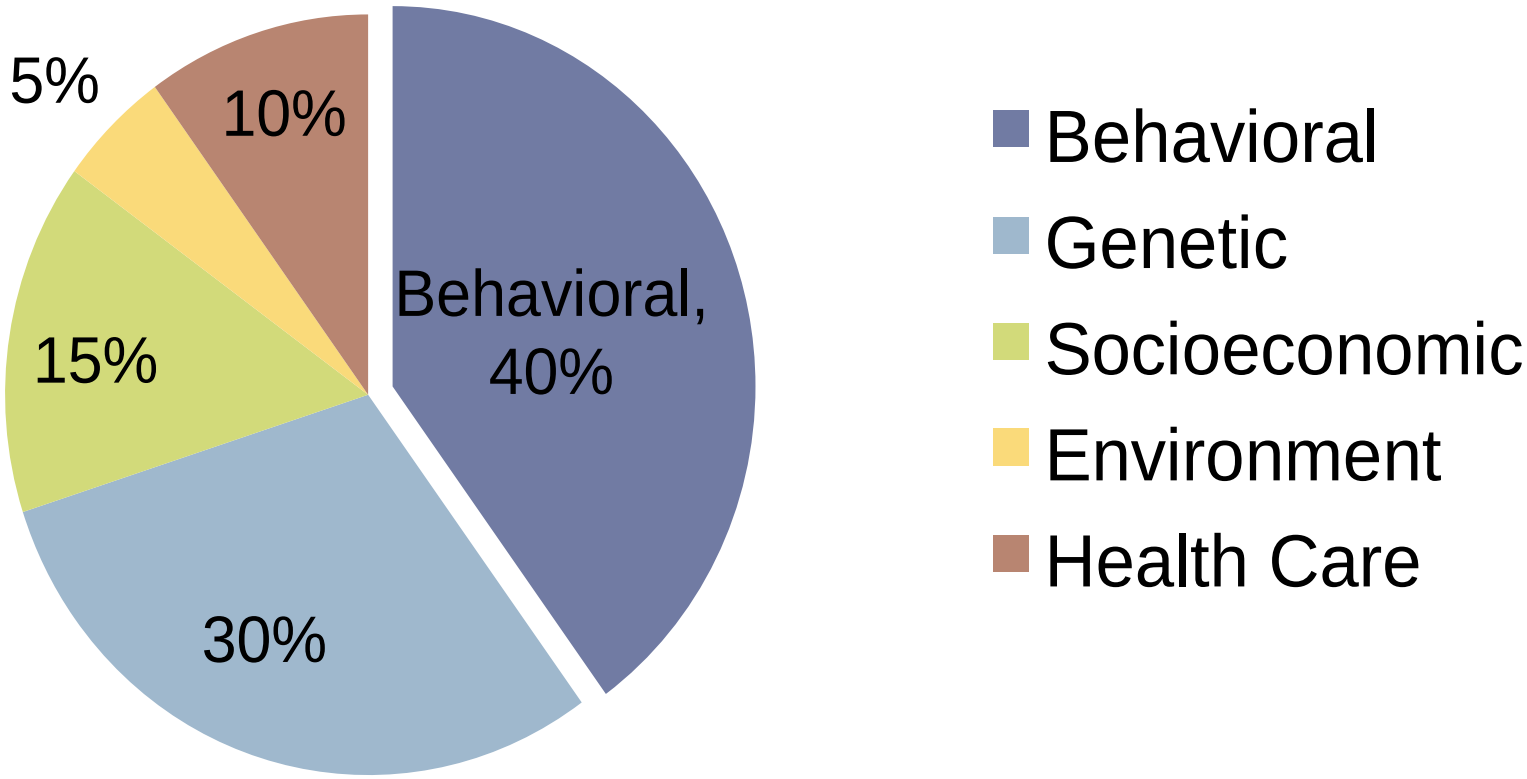
Mental illnesses AND unhealthy behaviors account for greatest burden of disease.



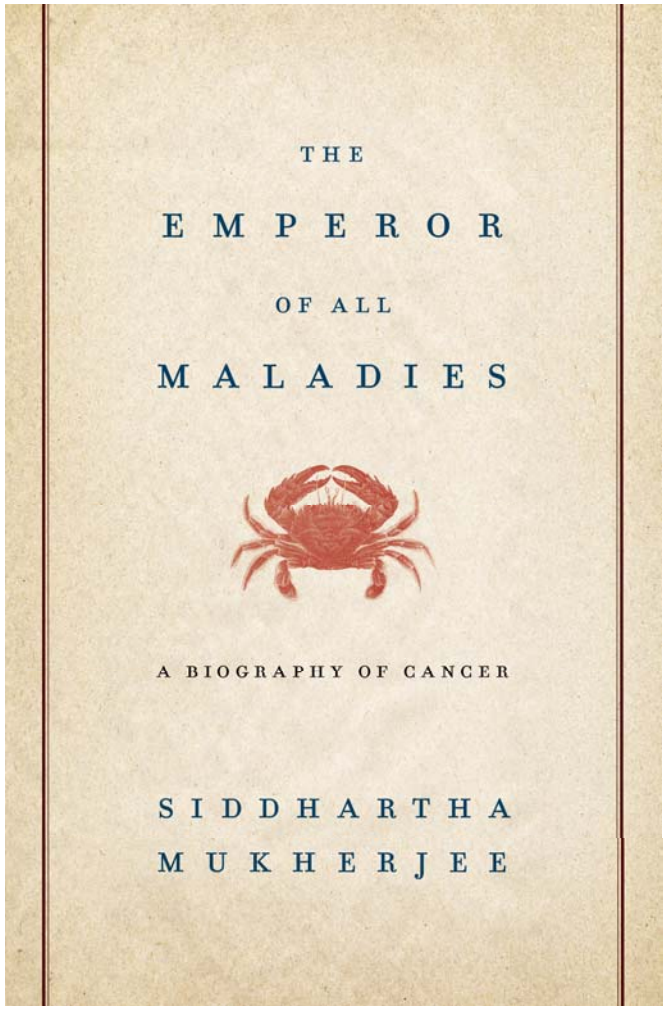
Behavioral health conditions account for the largest proportion of years of productive life lost (**YPLL**).

Martin et al., Lancet. 2007; 370:859-877

Leading Determinants of Overall Health are Behavioral



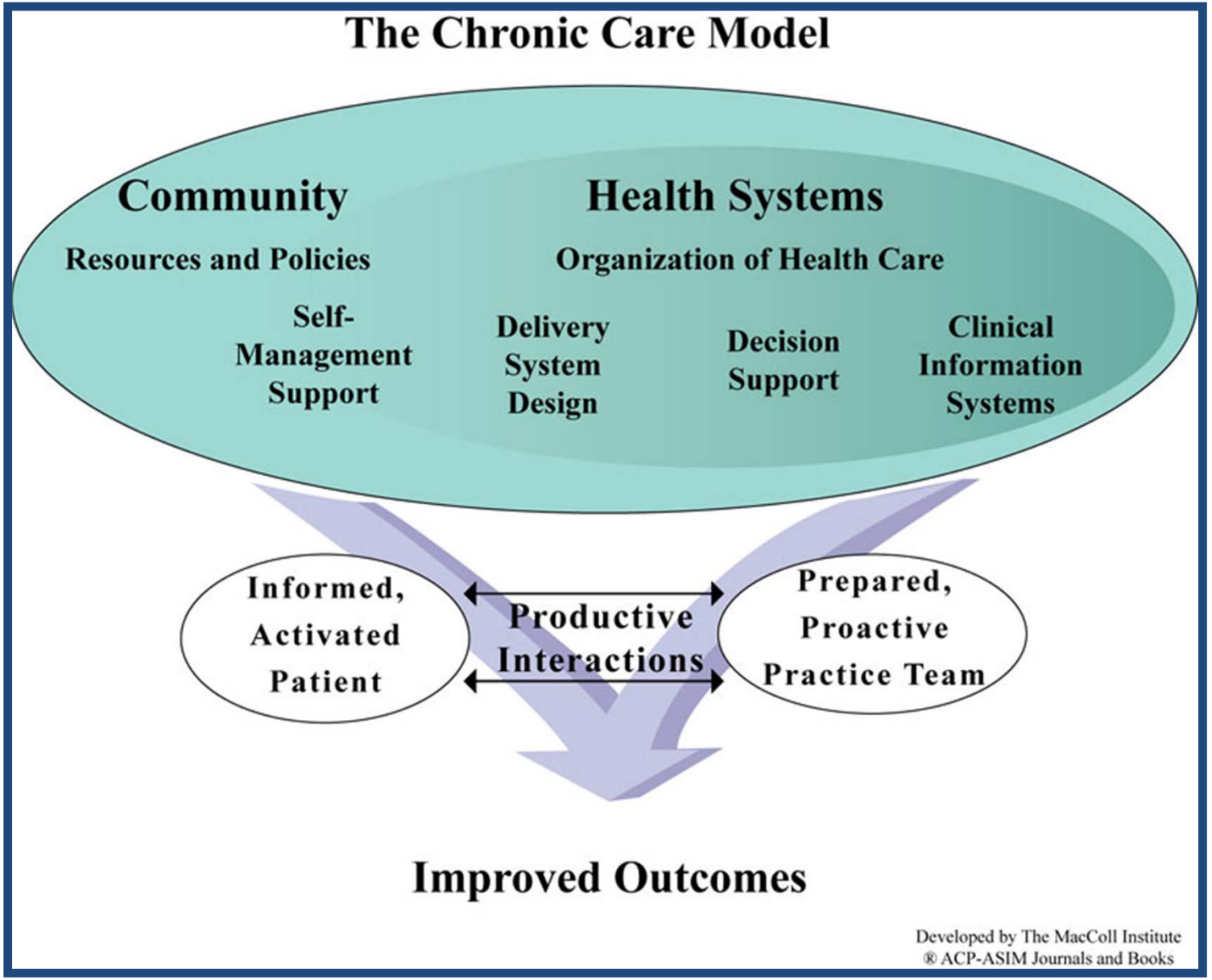
1.McGinnis JM et al. JAMA 1993;270:2207-12.



DIABETES

The quintessential chronic disease.

1



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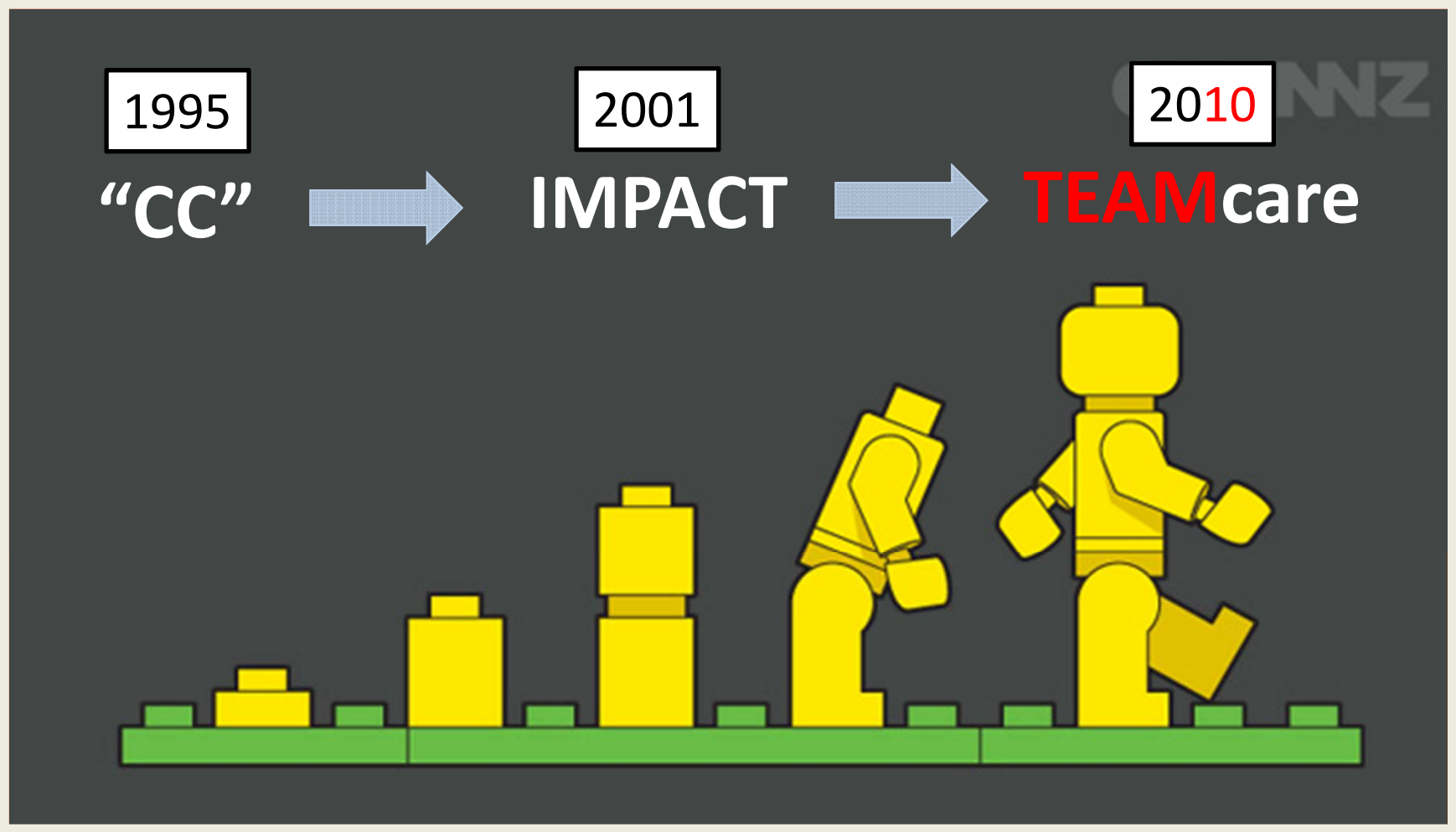
Iterations of the Chronic Care Model: "Collaborative Care"



Ahead of the game…

Collaborative Management to Achieve Treatment Guidelines

Impact on Depression in Primary Care

Wayne Katon, MD; Michael Von Korff, ScD; Elizabeth Lin, MD, MPH; Edward Walker, MD; Greg E. Simon, MD, MPH; Terry Bush, PhD; Patricia Robinson, PhD; Joan Russo, PhD

Objective.—To compare the effectiveness of a multifaceted intervention in patients with depression in primary care with the effectiveness of "usual care" by the primary care physician.

Design.—A randomized controlled trial among primary care patients with major depression or minor depression.

Patients.—Over a 12-month period a total of 217 primary care patients who were recognized as depressed by their primary care physicians and were willing to take antidepressant medication were randomized, with 91 patients meeting criteria for major depression and 126 for minor depression.

Interventions.—Intervention patients received increased intensity and frequency of visits over the first 4 to 6 weeks of treatment (visits 1 and 3 with a primary

SIGNIFICANT advances in medical therapy are not always reflected in everyday clinical practice.[1] Translating a treatment's biomedical efficacy into practical effectiveness often requires significant changes in the knowledge and attitudes of both physicians and patients, as well as changes in the organization of health care delivery. Efforts to develop guidelines for clinical practice are a response to this gap between knowledge and practice.[2,3]

1026 JAMA, April 5, 1995—Vol 273, No. 13

Billboard Year-End Hot 100 singles of 1995

From Wikipedia, the free encyclopedia

This is a list of *Billboard* magazine's Top **Hot 100** songs of 1995.[1]

№	Title	Artist(s)
1	"Gangsta's Paradise"	Coolio featuring L.V.
2	"Waterfalls"	TLC
3	"Creep"	TLC
4	"Kiss from a Rose"	Seal
5	"On Bended Knee"	Boyz II Men
6	"Another Night"	Real McCoy
7	"Fantasy"	Mariah Carey
8	"Take a Bow"	Madonna
9	"Don't Take It Personal (Just One of Dem Days)"	Monica
10	"This Is How We Do It"	Montell Jordan

“Core Principles of Effective Collaborative Care”

Patient-Centered Care Teams

- Team-based care: effective collaboration between PCPs and Behavioral Health Providers.

Population-Based Care

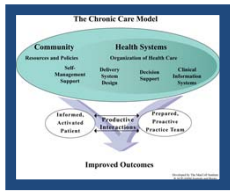
- Patients tracked in a registry: no one ‘falls through the cracks’.

Measurement-Based “Treat to Target”

- Measurable treatment goals clearly defined and tracked for each patient
- Treatments are actively changed until the clinical goals are achieved – “treat to target”

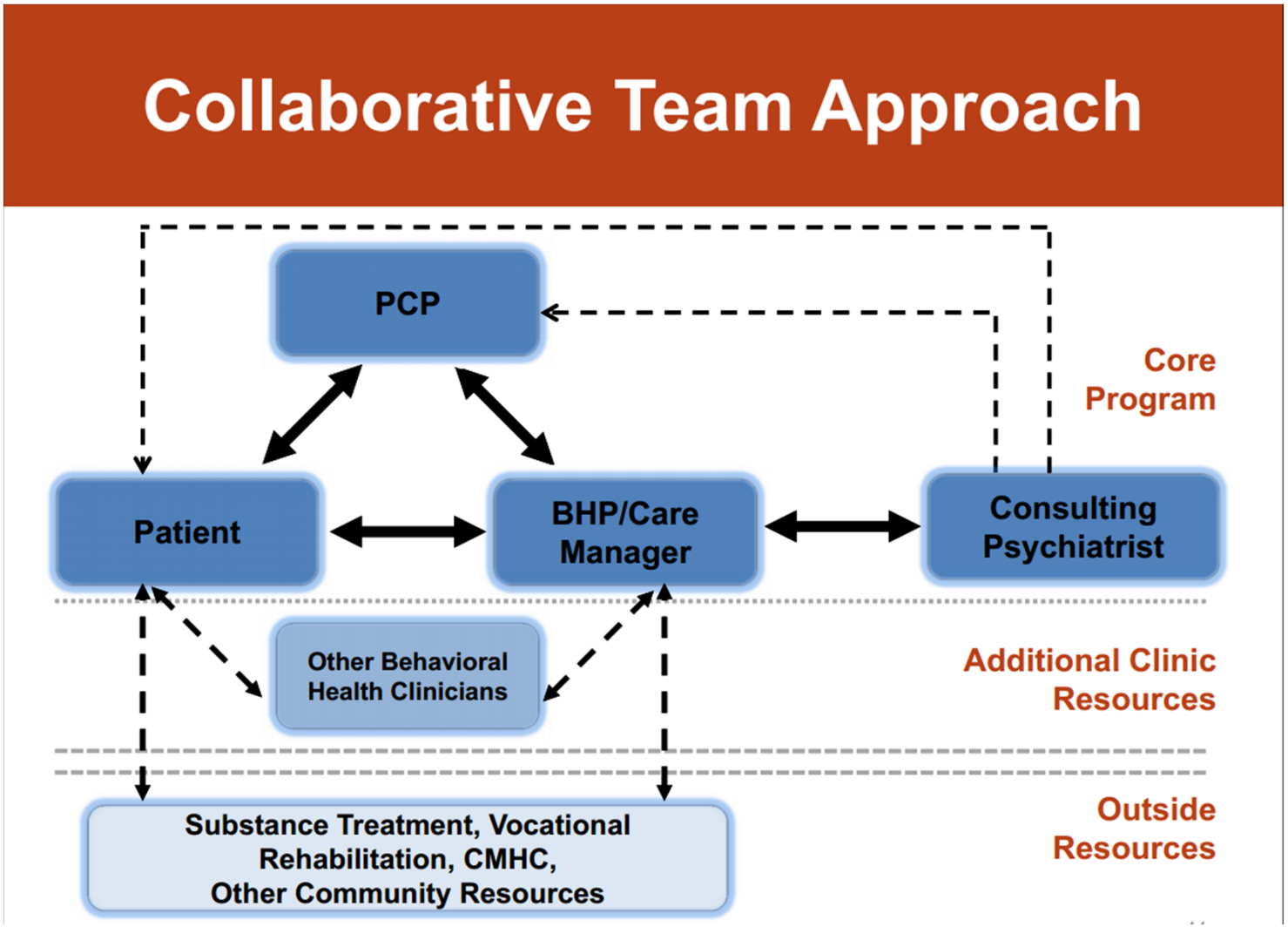
Evidence-Based Care

- Treatments used are ‘evidence-based’
- Pharmacology, brief psychotherapeutic interventions, models



http://uwaims.org and Whitebird et al, AJMC, 2014.

IMPACT Collaborative Care Model *Incarnate*



The IMPACT Data

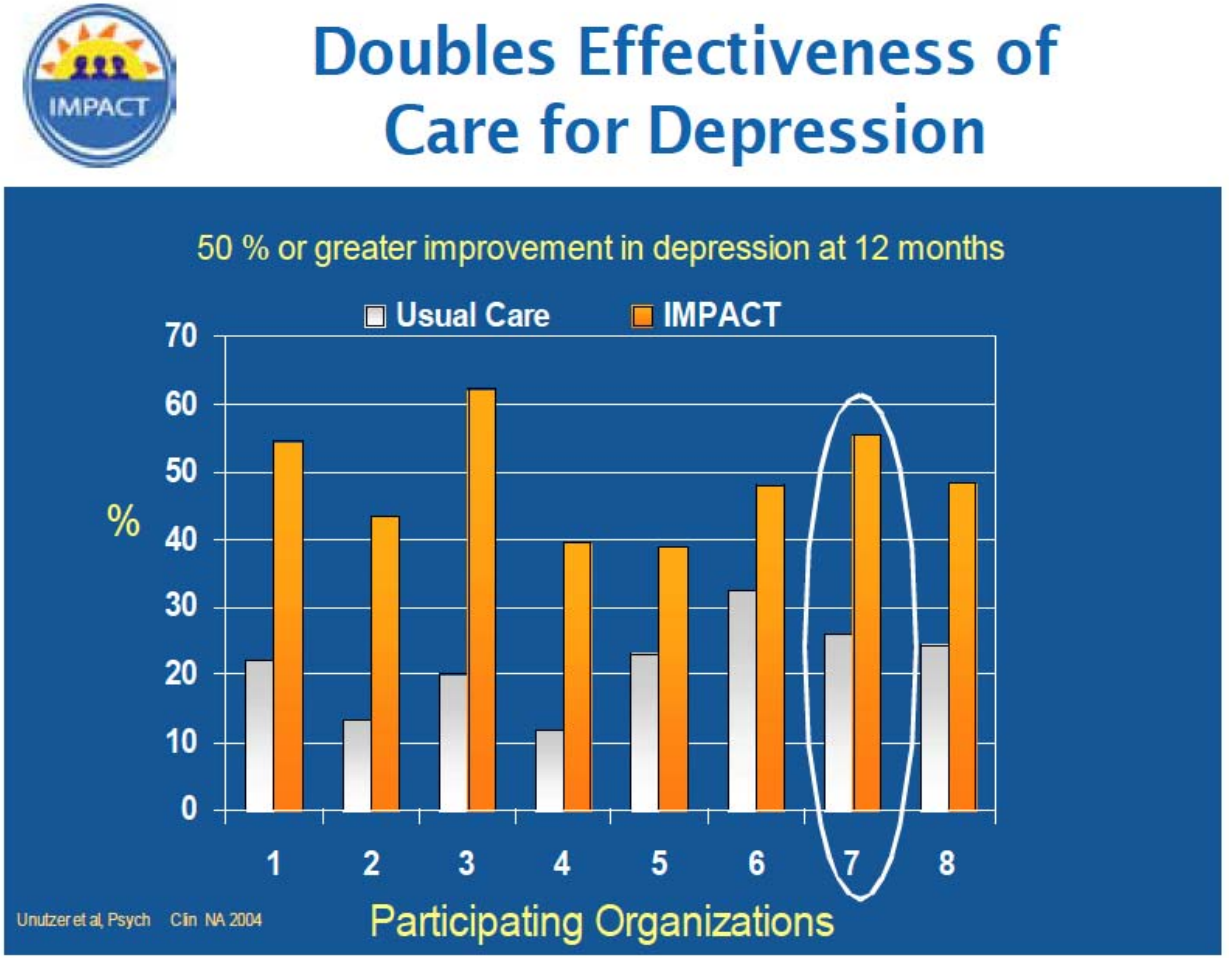


Figure 1: Percentage improvement in depression using IMPACT model and care as usual

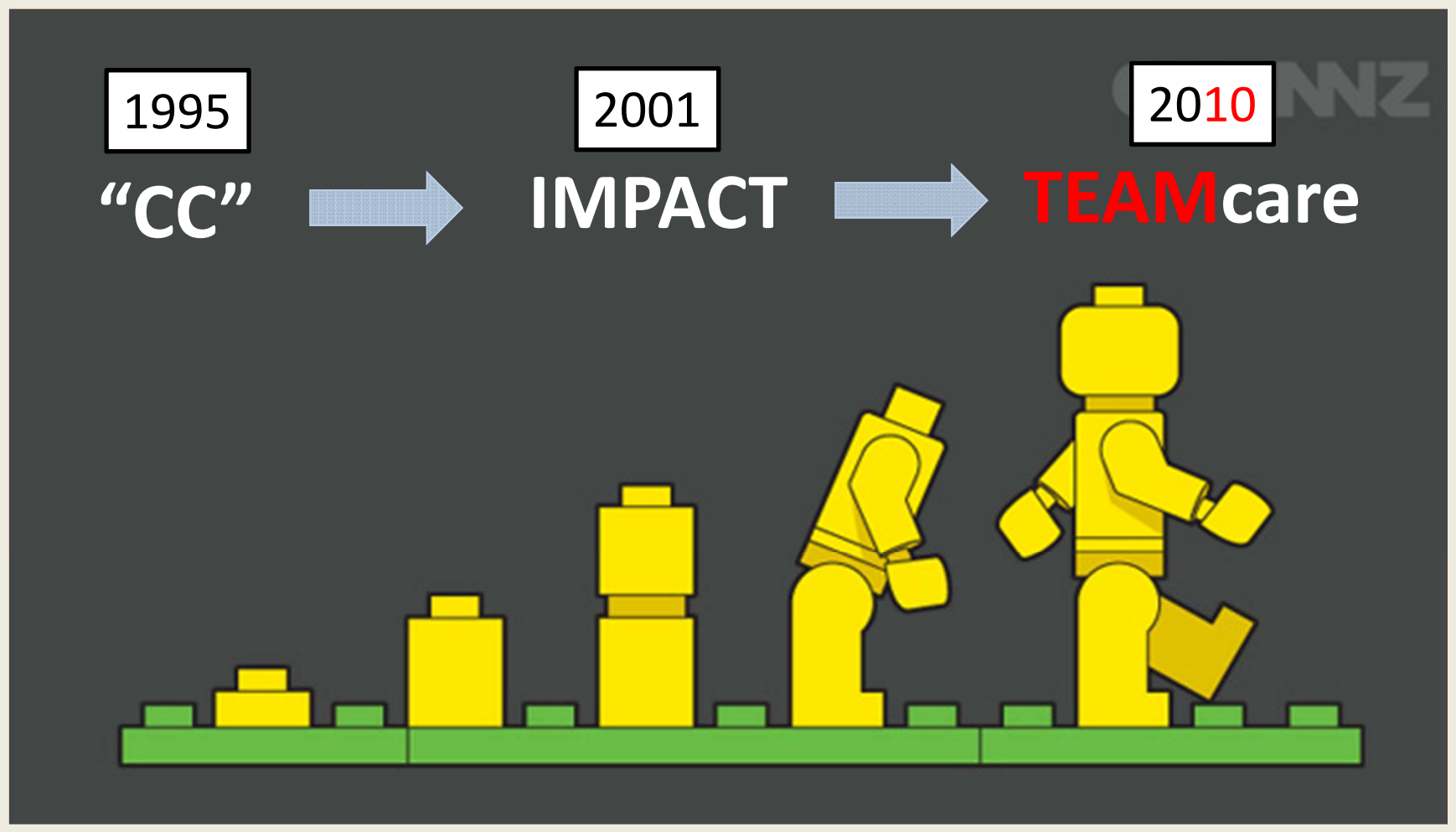
Unutzer, J. 2002. Collaborative Care Management of Late-Life Depression in the Primary Care Setting: A Randomized Controlled Trial. JAMA: The Journal of the American Medical Association 288 (22) (December 11): 2836-2845. doi:10.1001/jama.288.22.2836.

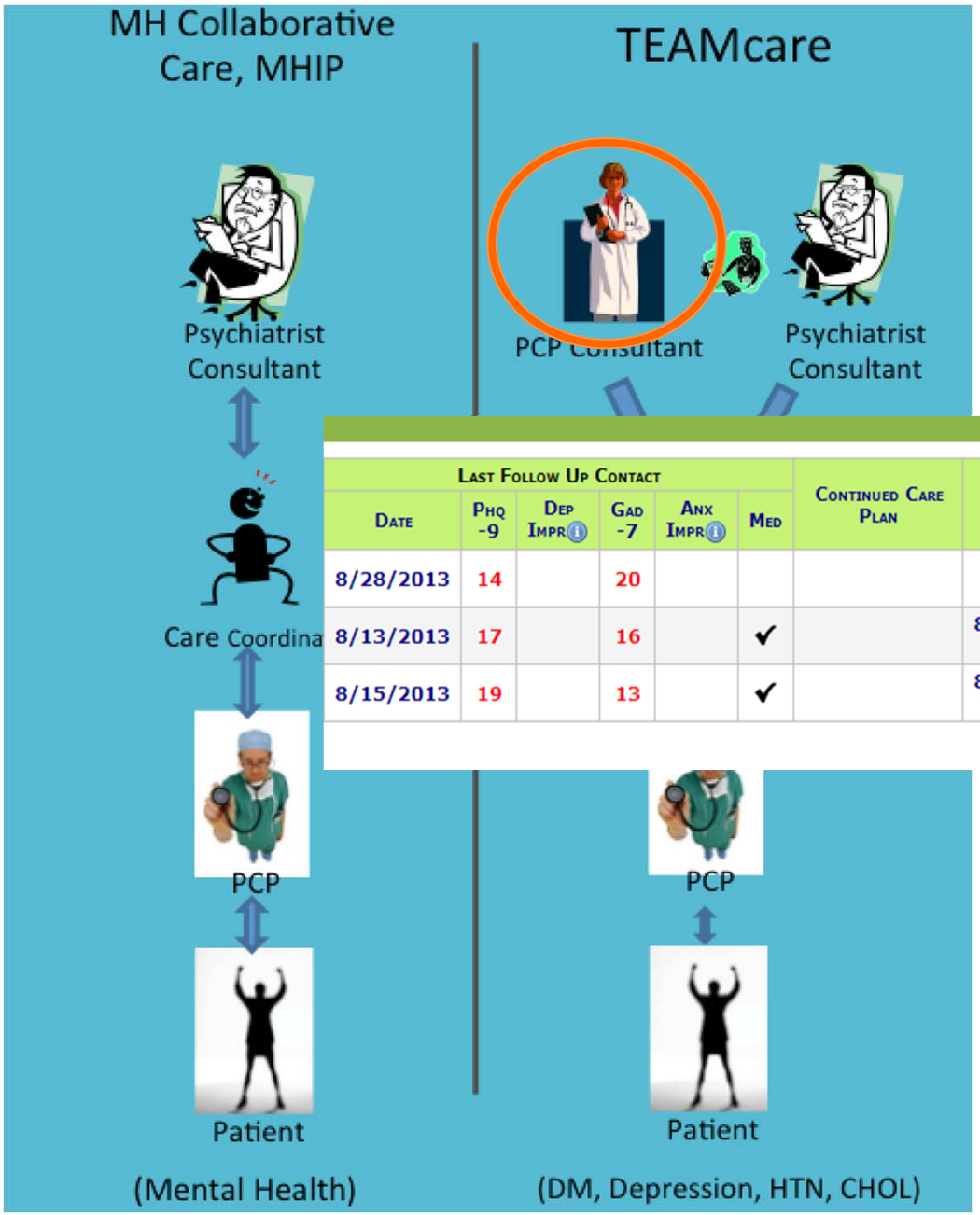
IMPACT Data, Savings

Cost Category	4-year costs in $	Intervention group cost in $	Usual care group cost in $	Difference in $
IMPACT program cost		522	0	522
Outpatient mental health costs	661	558	767	-210
Pharmacy costs	7,284	6,942	7,636	-694
Other outpatient costs	14,306	14,160	14,456	-296
Inpatient medical costs	8,452	7,179	9,757	-2578
Inpatient mental health / substance abuse costs	114	61	169	-108
Total health care cost	**31,082**	29,422	32,785	**-$3363**

Unützer et al., American Journal of Managed Care 2008;14:95-100

Iterations of the Chronic Care Model: "Collaborative Care"





The *evolution* of collaborative care to envelop multiple chronic conditions.

Last Follow Up Contact						Continued Care Plan	Psych. Note	Psych. Eval.	Eligible Thru	Next Appt.	Most Recent.		
Date	Phq -9	Dep Impr	Gad -7	Anx Impr	Med						HbA1c	Systolic BP	Ldl
8/28/2013	14		20					8/27/2013				98	
8/13/2013	17		16		✔		8/27/2013	8/21/2013	8/31/2013			108	
8/15/2013	19		13		✔		8/27/2013		8/31/2013			168	

Per page: 30

Biological Measures

IMPACT 2.0 Incarnate

Screenshot from CMTS/MHIP

Last Follow Up Contact						Continued Care Plan	Psych. Note	Psych. Eval.	Eligible Thru	Next Appt.	Most Recent.		
Date	PHQ -9	Dep Impr	GAD -7	Anx Impr	Med						HbA1c	Systolic BP	LDL
8/28/2013	14		20					8/27/2013				98	
8/13/2013	17		16		✔		8/27/2013	8/21/2013	8/31/2013			108	
8/15/2013	19		13		✔		8/27/2013		8/31/2013			168	

Per page: 30

Registries of patients.

TeamCare Summary Report

Initial	Clinic	Enroll Date	PHQ		BP		HbA_{1c}		LDL	
			BL	Now	BL	Now	BL	Now	BL	Now
	NSH	5/19/08	19	19	141/69	127/77	7.3	6.8	168	138
	NSH	1/9/08	15	2	118/80	130/80	9.2	8.3	138	124
	EVM	11/12/07	14	9	160/98	150/85	6.4	6.8	108	67
	EVM	10/30/07	13	2	209/119	126/76	7.3	7.7	119	103
	LYN	8/23/07	14	3	149/71	111/58	8.1	7.7	85	82

Name	A1c (initial)	A1c (recent)	PHQ9 Initial	PHQ9 Recent	SBP Initial	SBP Recent	Non-HDL Initial	Non-HDL Recent
Mary (new)	9.5	--	21	--	125	--	115	--
Todd	9.2	7.3	15	4	145	135	245	**150**
John	10.7	**8.2**	13	6	155	138	195	122
Gregor	8.9	7.1	22	**11**	135	137	168	110
Lucy	11.2	**9.4**	18	**13**	163	132	213	**145**
Bess	9.8	7.4	25	8	149	137	218	125

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Collaborative Care for Patients with Depression and Chronic Illnesses

Wayne J. Katon, M.D., Elizabeth H.B. Lin, M.D., M.P.H., Michael Von Korff, Sc.D., Paul Ciechanowski, M.D., M.P.H., Evette J. Ludman, Ph.D., Bessie Young, M.D., M.P.H., Do Peterson, M.S., Carolyn M. Rutter, Ph.D., Mary McGregor, M.S.N., and David McCulloch, M.D.

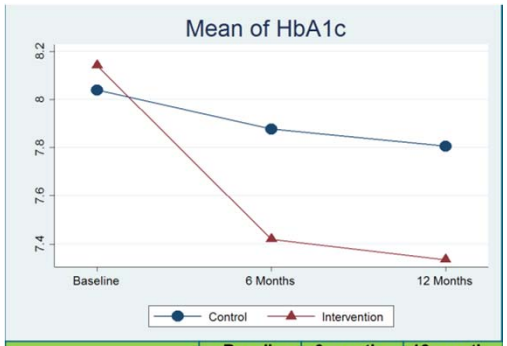
ABSTRACT

2010

TEAMcare Data, Data on *Collaborative* Care

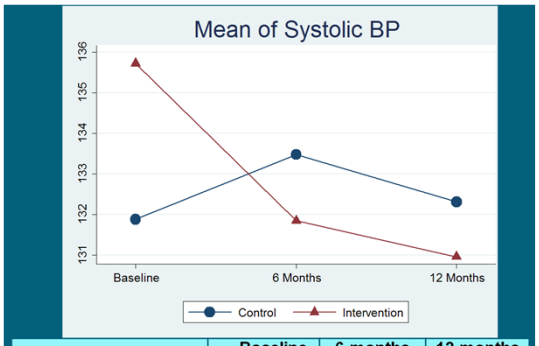
When treated in harmony with mental health, **chronic physical health improves significantly**[1]

Improved Diabetes[1]



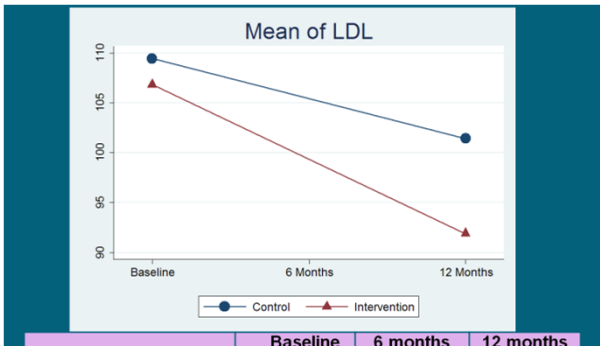
	Baseline	6 months	12 months
Intervention mean (N)	8.1 (105)	7.4 (99)	7.3 (101)
Control mean (N)	8.0 (105)	7.9 (95)	7.8 (97)

Improved BP[1]



	Baseline	6 months	12 months
Intervention mean (N)	135.7 (105)	131.9 (102)	131.0 (101)
Control mean (N)	131.9 (106)	133.5 (101)	132.3 (101)

Improved Cholesterol[1]

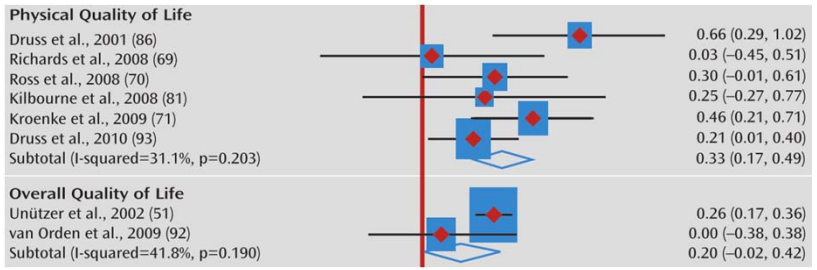


	Baseline	6 months	12 months
Intervention mean (N)	106.8 (105)	N/A	91.9 (98)
Control mean (N)	109.4 (103)	N/A	101.4 (90)

Overall **quality of life** and **physical health** improve consistently[2]

Physical health

Quality of life

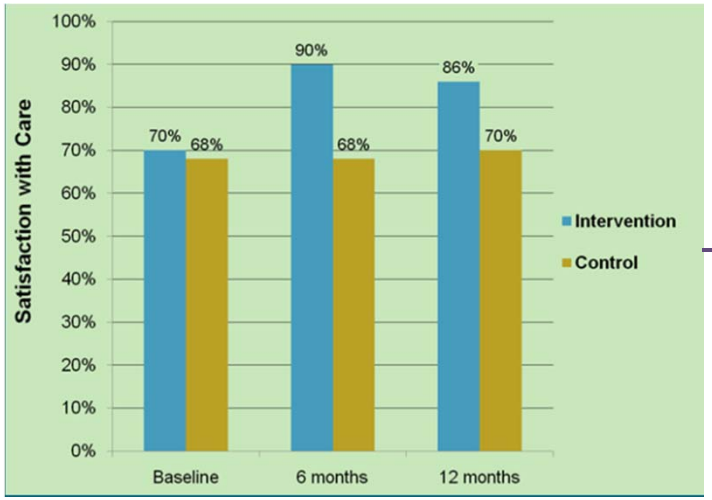


1. Katon et al, NEJM, 2010:363:2611-2620
2. Woltman et al, AJP, 2012: 169:790-784

Intelligent Integration Breeds Synergy

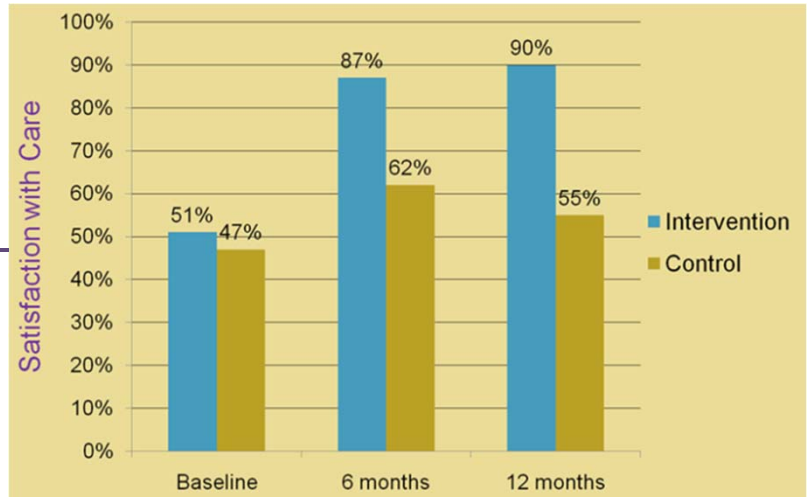
After 12 months of care, multi-condition collaborative care **improved patient satisfaction** in depression **AND** diabetes care[1]

Diabetes care



synergy

Depression care



Diapression

1. Katon et al, NEJM, 2010:363:2611-2620

Collaborative Care: Evidence Beyond Evidence

"Seventy-nine RCTs (including 90 relevant comparisons) involving 24,308 participants in the review."

"Collaborative care is associated with significant improvement in depression and anxiety outcomes compared with usual care, and represents a useful addition to clinical pathways for adult patients with depression and anxiety."

Archer, 2012, Cochrane

What are some current models for better integrating mental health and primary care services?

Two models to choose from…

BHC

CC

BHC: Co-Located Behavioral Health

(Helps Reduce Stigma!)

- Behavioral health in the same space with primary care
- Involvement by referral
- Separate behavioral health and medical treatment plans

Advantages	Challenges
• Access improved at first • Improved patient & provider satisfaction • Cost effective (cheaper to implement) • Improved clinical outcomes?	• Referrals don't show • Case-loads fill up • Slow primary care physician learning curve • Communication still difficult

Collaborative Care

- Behavioral health not *necessarily* in the same space with primary care
- Involvement through caseload review
- Integrated treatment plans

Advantages	Challenges
• Access greatly improved • Improved patient & provider satisfaction • Cost effective • Improved clinical outcomes! • Increased learning curves • True to chronic care model	• More complicated intervention • Workforce retraining required • Needs top-down support • Payment reform is lagging • Not all recommendations are passed through

In Summation CC is hard to implement but highly effective.

Cost is often a limiting factor.

Just a highlight…

Cost-Effectiveness of On-Site Versus Off-Site Collaborative Care for Depression in Rural FQHCs

Jeffrey M. Pyne, M.D., John C. Fortney, Ph.D., Sip Mouden, M.S., C.R.C., Liya Lu, M.S., Teresa J. Hudson, Pharm.D., Dinesh Mittal, M.D.

Objective: Collaborative care for depression in primary care settings is effective and cost-effective. However, there is minimal evidence to support the choice of on-site versus off-site models. This study examined the cost-effectiveness of on-site practice-based collaborative care (PBCC) versus off-site telemedicine-based collaborative care (TBCC) for depression in federally qualified health centers (FQHCs).

Methods: In a multisite, randomized, pragmatic comparative cost-effectiveness trial, 19,285 patients were screened for depression, 2,863 (14.8%) screened positive, and 364 were enrolled. Telephone interview data were collected at baseline and at six, 12, and 18 months. Base case analysis used Arkansas FQHC health care costs, and secondary analysis used national cost estimates. Effectiveness measures were depression-free days and quality-adjusted life years (QALYs) derived from depression-free days, the 12-Item Short-Form Survey, and the Quality of Well-Being (QWB) Scale. Nonparametric bootstrap with replacement methods were used to generate an empirical joint distribution of incremental costs and QALYs and acceptability curves.

Results: The TBCC intervention resulted in more depression-free days and QALYs but at a greater cost than the PBCC intervention. The disease-specific (depression-free day) and generic (QALY) incremental cost-effectiveness ratios (ICERs) were below their respective ICER thresholds for implementation, suggesting that the TBCC intervention was more cost effective than the PBCC intervention.

Conclusions: These results support the cost-effectiveness of TBCC in medically underserved primary care settings. Information about whether to insource (make) or outsource (buy) depression care management is important, given the current interest in patient-centered medical homes, value-based purchasing, and bundled payments for depression care.

Psychiatric Services 2015; 66:491–499; doi: 10.1176/appi.ps.201400186

separately payable service. However, in contrast to the CCM code, the new codes might be reported based on the resources involved in professional work, instead of the resource costs in terms of clinical staff time. The codes might also apply broadly to patients in a number of different circumstances, and would not necessarily make reporting the code(s) contingent on particular business models or technologies for medical practices. We are interested in stakeholder comments on the kinds of services that involve the type of cognitive work described above and whether or not the creation of particular codes might improve the accuracy of the relative values used for such services on the PFS. Finally, we are interested in receiving information from stakeholders on the overlap between the kinds of cognitive resource costs discussed above and those already accounted for through the currently payable codes that describe CCM and other care management services.

We strongly encourage stakeholders to comment on this topic in order to assist us in developing potential proposals to address these issues through rulemaking in CY 2016 for implementation in CY 2017. We anticipate using this approach, which would parallel our multi-year approach for implementing CCM and TCM services, in order to facilitate broader input from stakeholders regarding details of implementing such codes, including

reader to the CY 2010 PFS final rule for information regarding Medicare payment policies for those services (74 FR 61767).

However, in considering how to improve the accuracy of our payments for care coordination particularly for patients requiring more extensive care, we are seeking comment on how Medicare might accurately account for the resource costs of a more robust interprofessional consultation within the current structure of PFS payment. For example, we would be interested in stakeholders' perspectives regarding whether there are conditions under which it might be appropriate to make separate payment for services like those described by these CPT codes. We are interested in stakeholder input regarding the parameters of, and resources involved in these collaborations between a specialist and primary care practitioner, especially in the context of the structure and valuation of current E/M services. In particular, we are interested in comments about how those collaborations could be distinguished from the kind of services included in other E/M services, how these services could be described if stakeholders believe the current CPT codes are not adequate, and how these services should be valued on the PFS. We are also interested in comments on whether we should tie those interprofessional consultations to a beneficiary encounter

requirements could be implemented in a way that minimizes burden on providers. We strongly encourage stakeholders to comment on this topic in order to assist us in developing potential proposals to address those issues through rulemaking in CY 2016 for implementation in CY 2017. We anticipate using this approach, which would parallel our multi-year approach for implementing CCM and TCM services, in order to facilitate broader input from stakeholders regarding details of implementing such codes, including their structure and description, valuation, and any requirements for reporting.

a. Collaborative Care Models for Beneficiaries With Common Behavioral Health Conditions

In recent years, many randomized controlled trials have established an evidence base for an approach to caring for patients with common behavioral health conditions called "Collaborative Care." Collaborative care typically is provided by a primary care team, consisting of a primary care provider and a care manager, who works in collaboration with a psychiatric consultant, such as a psychiatrist. Care is directed by the primary care team and includes structured care management with regular assessments of clinical status using validated tools and modification of treatment as appropriate. The psychiatric consultant

The NEW ENGLAND JOURNAL of MEDICINE

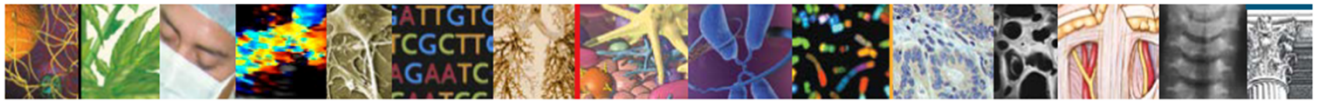
Perspective

Setting Value-Based Payment Goals — HHS Efforts to Improve U.S. Health Care

Sylvia M. Burwell

Now that the Affordable Care Act (ACA) has expanded health care coverage and made it affordable to many more Americans, we have the opportunity to shape the way care is delivered and improve the quality of care systemwide, while helping to reduce the growth of health care costs. Many efforts have already been initiated on these fronts, leveraging across settings, and greater attention by providers to population health; and harnessing the power of information to improve care for patients.

2018. Perhaps even more important, our target is to have 30% of Medicare payments tied to quality or value through alternative payment models by the end of 2016, and 50% of payments by the end of 2018. Alternative payment models include accountable care organizations (ACOs) and bundled-payment arrangements under which health care providers are



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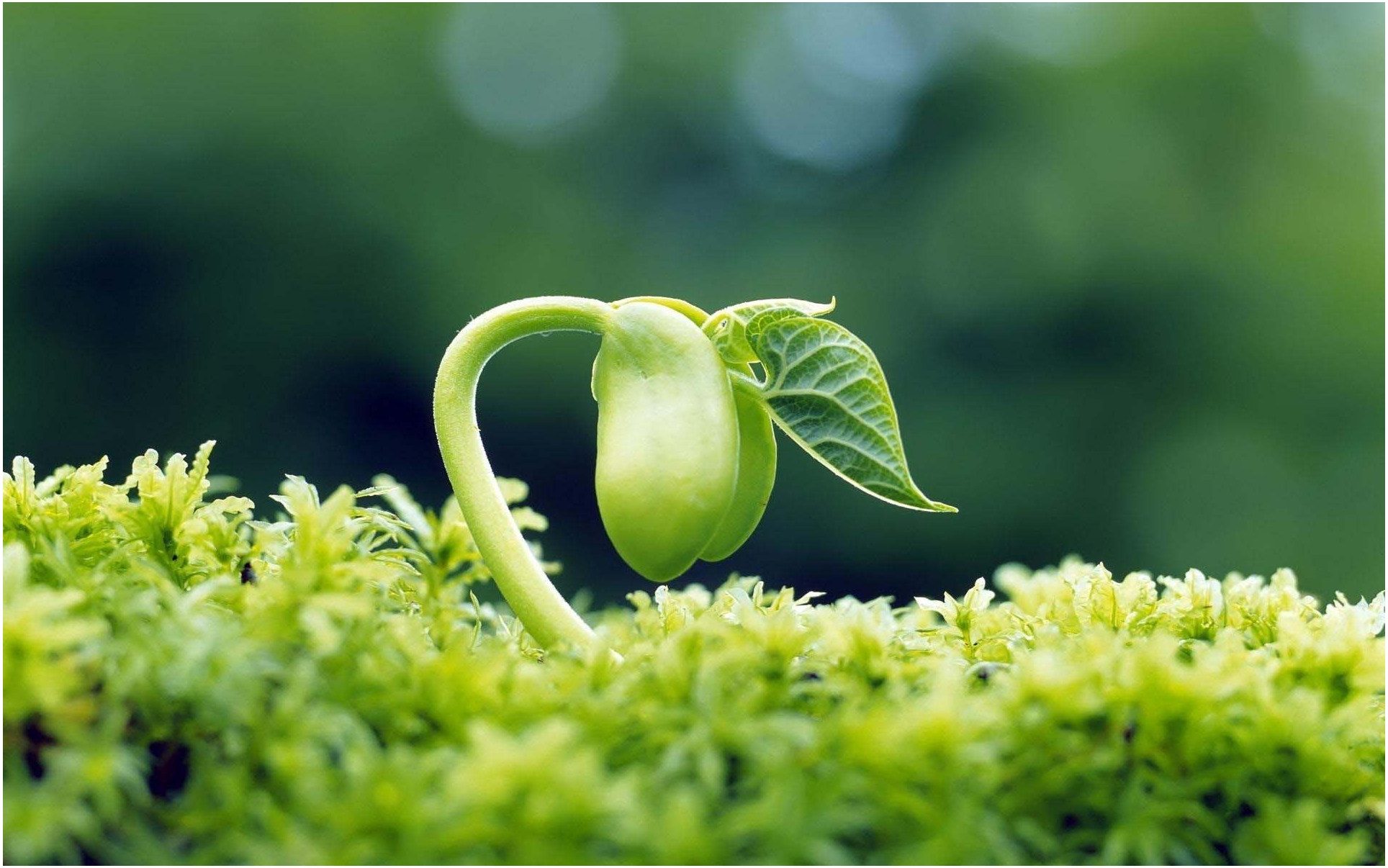

Though not prime time just yet, CC is growing.

…the most effective talks seem to be those that emphasize practical issues with bottom-line advice...

Objectives

1

2

I have 2 objectives with this talk.

What's in the (final) Mix?

1) **Applicable**: Common problems
2) **Disable**: Directly Effect Health/QoL
3) **Relatable**: Interdependent
4) **Changeable**: Treatment Exists
5) **Doable**: "*Measurable, Screenable, Trackable, Reliable*"

Biological:
A1c
SBP
LDL
BMI
Viral Load
FT/FEV/Peak Flow
in Questionnaire?

Sociological:
Residential Time-Line Feed-Back Scale
Employment Measure
WHO-DAS
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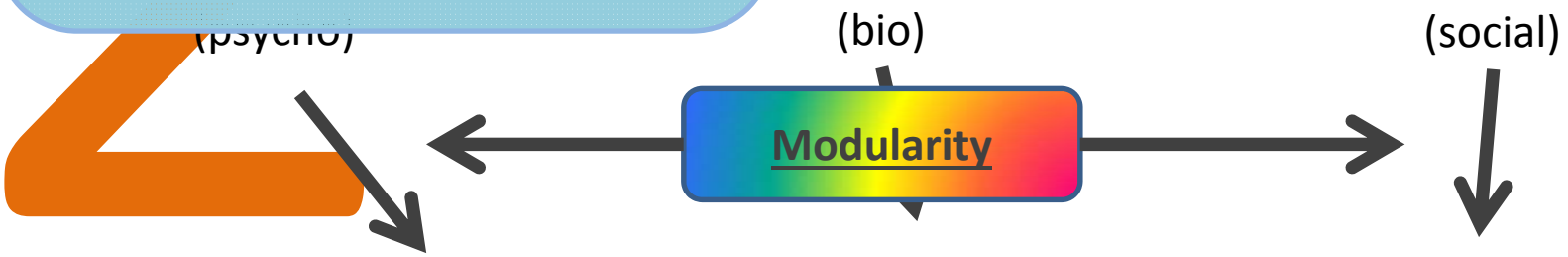
Financial
Interpersonal Relations
Social Support Questionnaire
Recovery Instrument (Milestones)
Patient-Developed Scales



Patient	PHQ-9	Cigs/Day	A1c	SBP	LDL	Housing Status	Recovery Scale
B Obama	**20**	**20**	6.3	131	105	**55**	13
M Romn	5	0	5.5	140	**138**	25	10
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"Core Principles of Effective Collaborative Care"

Getting There

Patient-Centered Care Teams

- Team-based care: effective collaboration between PCPs and Behavioral Health Providers.

Population-Based Care

- Patients tracked in a registry: no one 'falls through the cracks'.

Measurement-Based "Treat to Target"

- Measurable treatment goals clearly defined and tracked for each patient
- Treatments are actively changed until the clinical goals are achieved – "treat to target"

Evidence-Based Care

- Treatments used are 'evidence-based'
- Pharmacology, brief psychotherapeutic interventions, models

Already Doing It

http://uwaims.org and Whitebird et al, AJMC, 2014.

Name	A1c (initial)	A1c (recent)	PHQ9 Initial	PHQ9 Recent	SBP Initial	SBP Recent	Non-HDL Initial	Non-HDL Recent
Mary (new)	9.5	--	21	--	125	--	115	--
Todd	9.2	7.3	15	4	145	135	245	**150**
John	10.7	**8.2**	13	6	155	138	195	122
Gregor	8.9	7.1	22	**11**	135	137	168	110
Lucy	11.2	**9.4**	18	**13**	163	132	213	**145**
Bess	9.8	7.4	25	8	149	137	218	125

A demonstration of population-focused care *and* "treat-to-target".

Names are to the left of this…

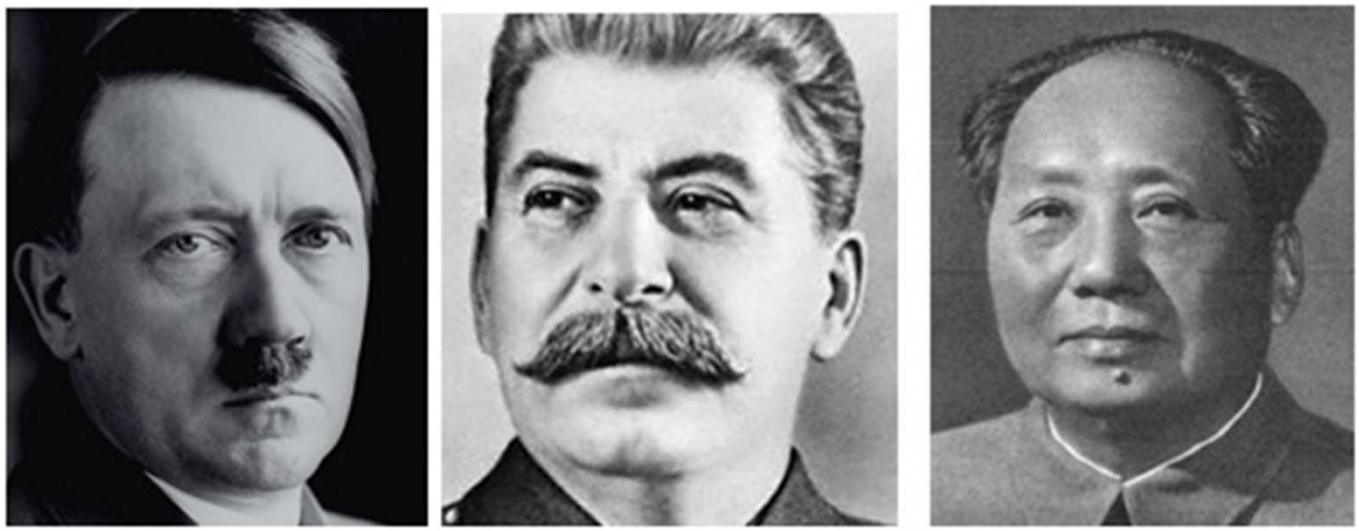
Age (Years)	Smoking	SBP	BMI	Non-HDL Cholesterol	A1c	Glucose
32	Y	190	21.95	0		
63	N	164	54.42	90		199
43	N	160	34.89	139	8.10%	
53	Y	154	40	148	9.20%	237
23	Y	151	37.71	154	5.80%	114
37	Y	150	24.42	0		
60	Y	150	28.37	59	5.50%	138
57	Y	150	26.72	92		99
63	Y	149	28.73	97	6.30%	
49	Y	147	29.8	131		108
53	Y	145	48.21	126	6.10%	91
25	N	144	30.37	187		77
74	N	143		0		
38	Y	143	27.57	90	5.90%	133
53	Y	142	48.71	126		99
40	Y	141	33.6	196	5.80%	98
51	Y	140	42.41	0		83
56	Y	140	29.14	131		95
45	Y	140	42.83	140	6.50%	111
30	Y	140	33.48	179	5.60%	72
60	N	140	34.71	193	5.42%	91
60	N	138	29.05	0		
43	Y	138	33.12	127	9.90%	297
72	Y	138	22.64	177	5.60%	85

Six Components of Effective Measurement

1. **Measurement alone is not enough; outcomes must be incorporated into the clinical encounter.**
2. **Patient-reported outcomes are more accurate than clinician-reported outcomes.**
3. **Measures must be collected frequently to accurately assess the most recent clinical state.**
4. **Measures must be tightly correlated to the illness state and are typically diagnosis-specific.**
5. **Instruments must be reliable and sensitive to change.**
6. **Methods must be relatively simple to implement and low cost.**

Vanderlip et al. APA APM Report on Dissemination of Integrated Care, August 2015

Measurement alone is not enough, outcomes must be incorporated into the clinical encounter.



"Bad rulers"

Patient-reported outcomes are more accurate than clinician-reported outcomes.

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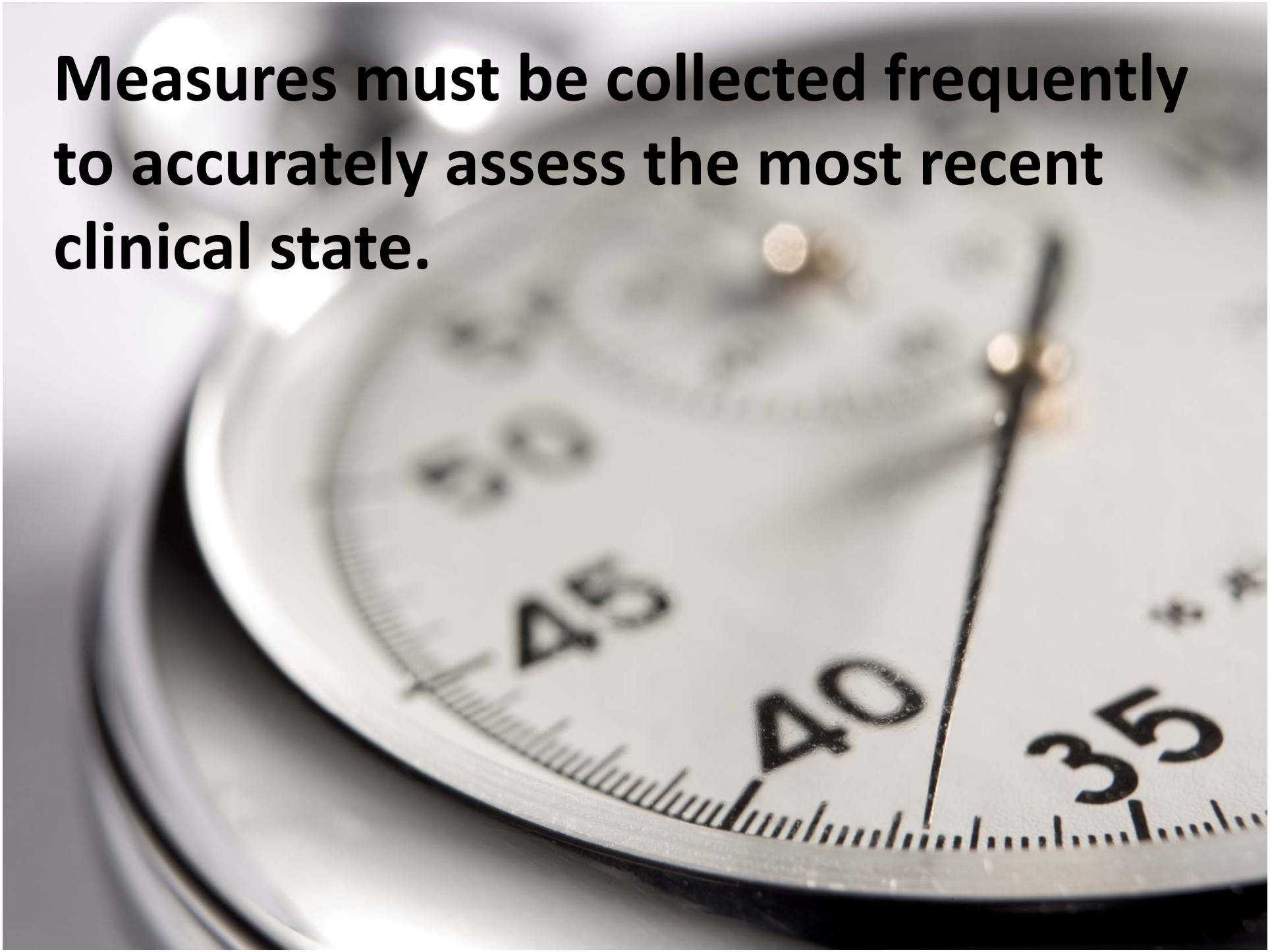

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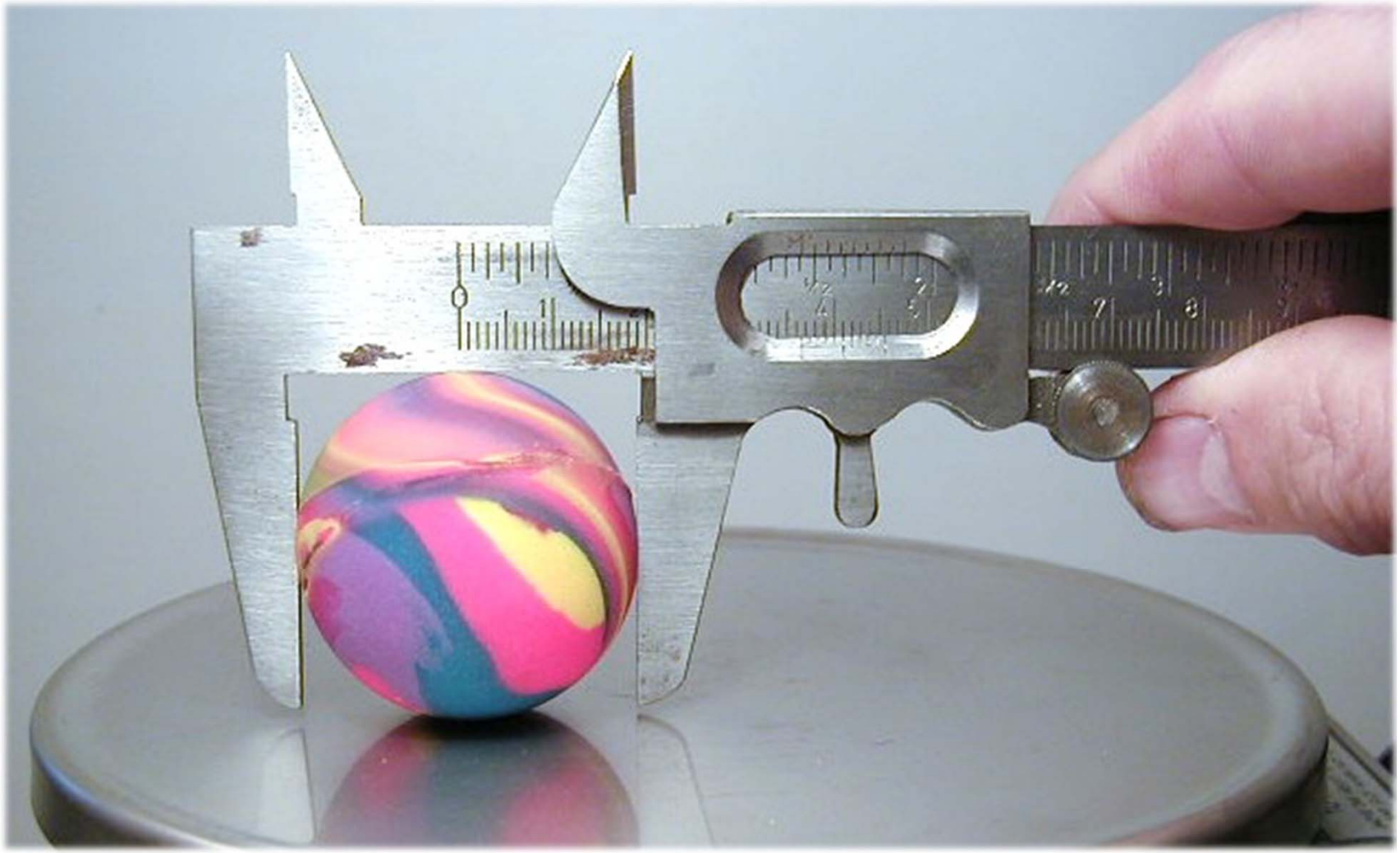

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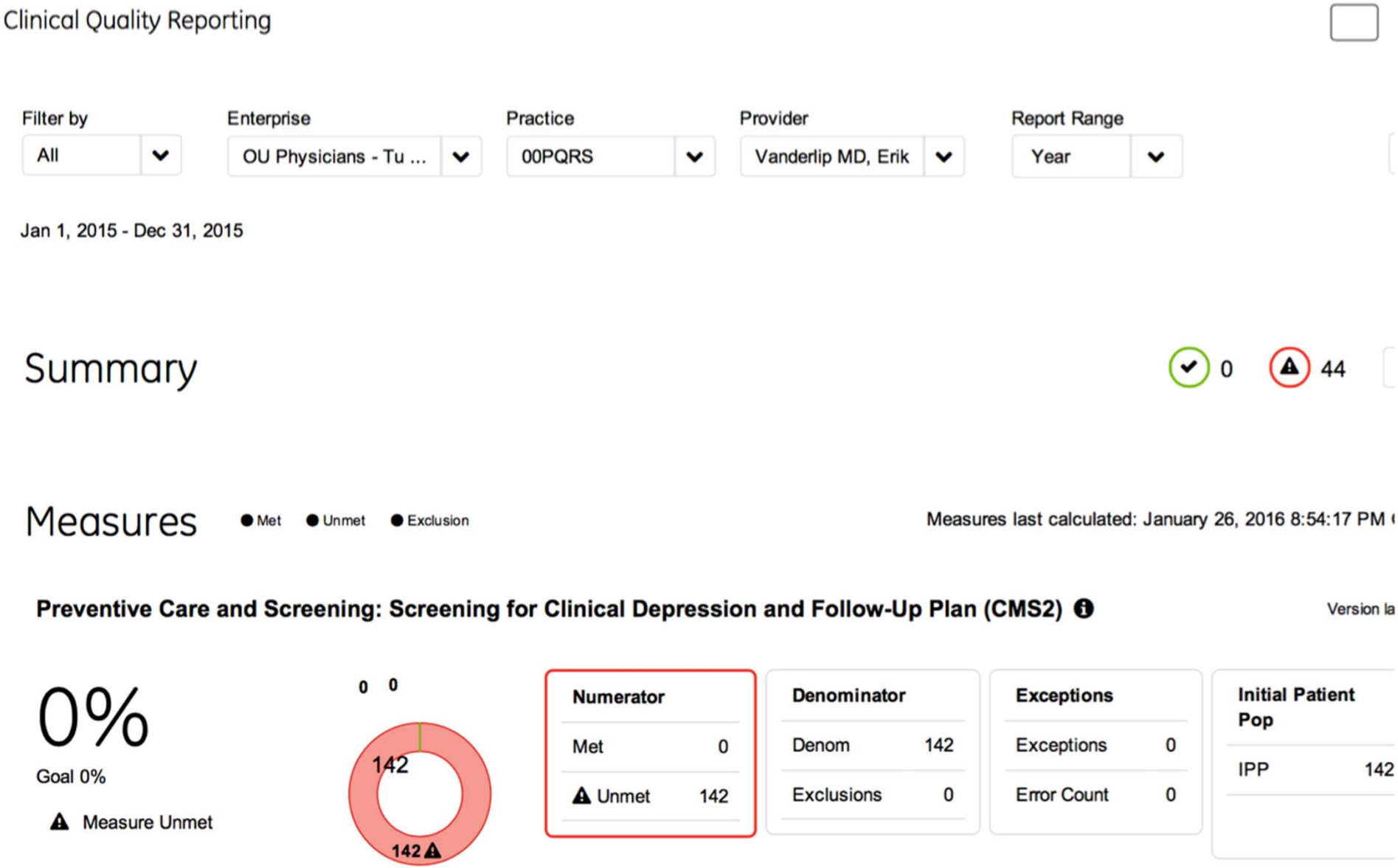
Absolutely NOT a good measure.



What's in the Mix?
Current Model

Screenshot from CMTS/MHIP

Last Follow Up Contact						Continued Care Plan	Psych. Note	Psych. Eval.	Eligible Thru	Next Appt.	Most Recent.		
Date	PHQ -9	Dep Impr	GAD -7	Anx Impr	Med						HbA1c	Systolic BP	LDL
8/28/2013	14		20					8/27/2013				98	
8/13/2013	17		16		✔		8/27/2013	8/21/2013	8/31/2013			108	
8/15/2013	19		13		✔		8/27/2013		8/31/2013			168	

Per page: 30

Psychological Constructs/Measures

Biological Measures

It's not by accident…

1) Common problems
2) Directly impact QoL and Health Outcomes and **FUNCTIONING**
3) Interdependent: ***Dia*pression**
4) We can change them (apply ***TREAT TO TARGET*** guidelines)
5) Easily "able": "Measurable, Screenable, Trackable, Reliable"
   a. We have good (valid, reliable) instruments for all of these!

What's in the Mix?
Community/Safety-Net Settings

1) **Applicable**: Common problems
2) **Disable**: Deficits in Functioning
3) **Relatable**: Interdependent
4) **Changeable**: Treatment Exists, "***TTT***"
5) **Doable**: "*Measurable, Screenable, Trackable, Reliable*"

Biological:
A1c
SBP
LDL
BMI
Viral Load
PFT/FEV/Peak Flow
Pain Questionnaire?

Psychological:
PHQ-9
PCL-C
GAD-7
SMI: **PANSS, YMRS/Internal State**
~~**MMPI**~~

Substance Use Disorders:
Cig Eq./Day
AUDIT
Opioid Scale?
More…

Sociological:
Residential Time-Line Feed-Back Scale
Employment Measure
WHO-DAS
Legal
Financial
Interpersonal Relations
Social Support Questionnaire
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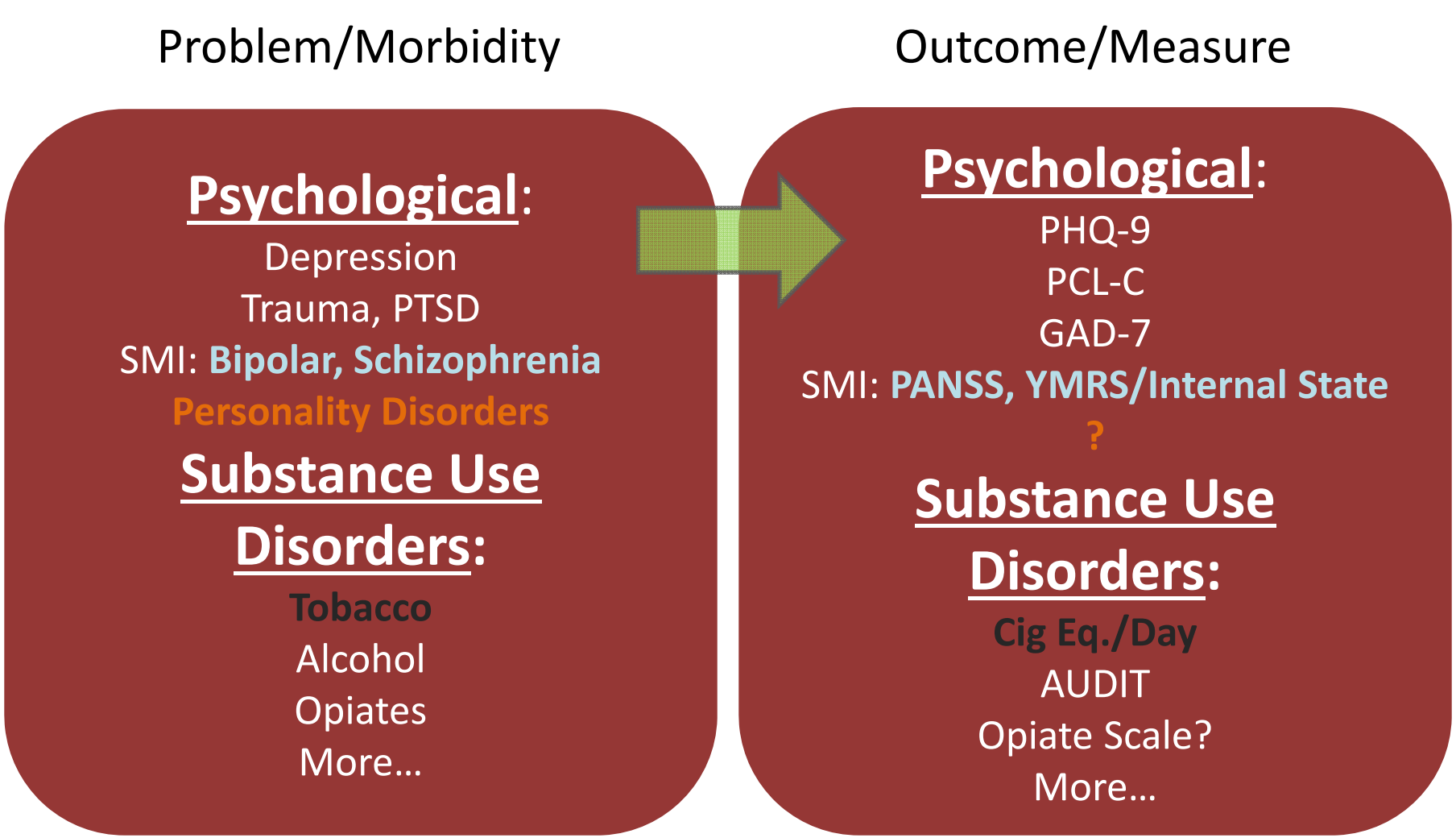
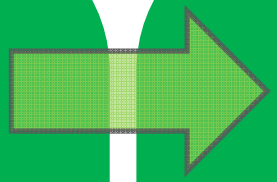
What to Include? Psychological



What to Include? Biological

Problem/Morbidity	Outcome/Measure
Biological:	**Biological**:
Diabetes	A1c
Hypertension	SBP
Cholesterol	LDL
Obesity	BMI
Hepatitis	**Viral Load**
COPD	**PFT/FEV/Peak Flow**
Chronic Pain	**Pain Questionnaire?**



What to Include? Sociological

Problem/Morbidity

Sociological:

Housing

Employment

Disability

Legal

Financial

Interpersonal Relations

Social Support

Outcome/Measure

Sociological:

Residential Time-Line Feed-Back Scale

Employment Measure

WHO-DAS

Legal

Financial

Interpersonal Relations

Social Support Questionnaire

Recovery Instrument (Milestones)

Patient-Developed Scales

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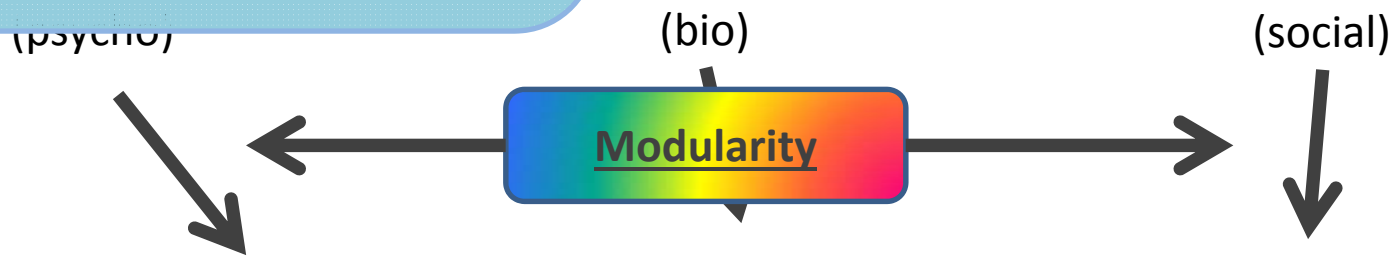

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Bottom Line Just Start Measuring*

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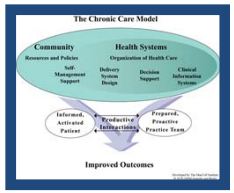

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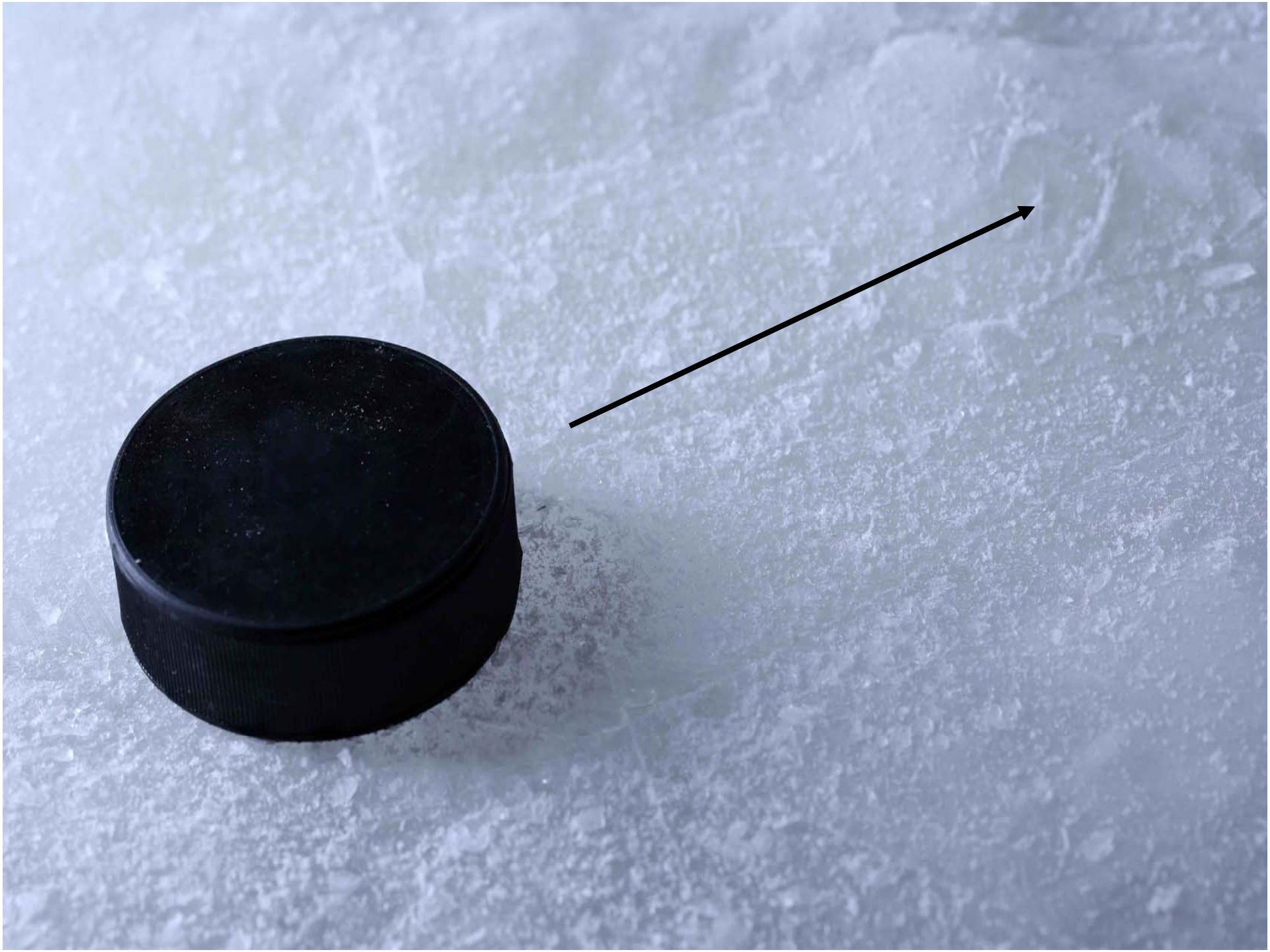


The Lexicon of Healthcare Reform

Motivational Interviewing

PCMH

Behavioral Health Homes

SBIRT

Co-located Care

Integrated Care

Self-Management Support

Cardiovascular Disease

Health Information

Health Behavior Change

Patient-Centered

BURN

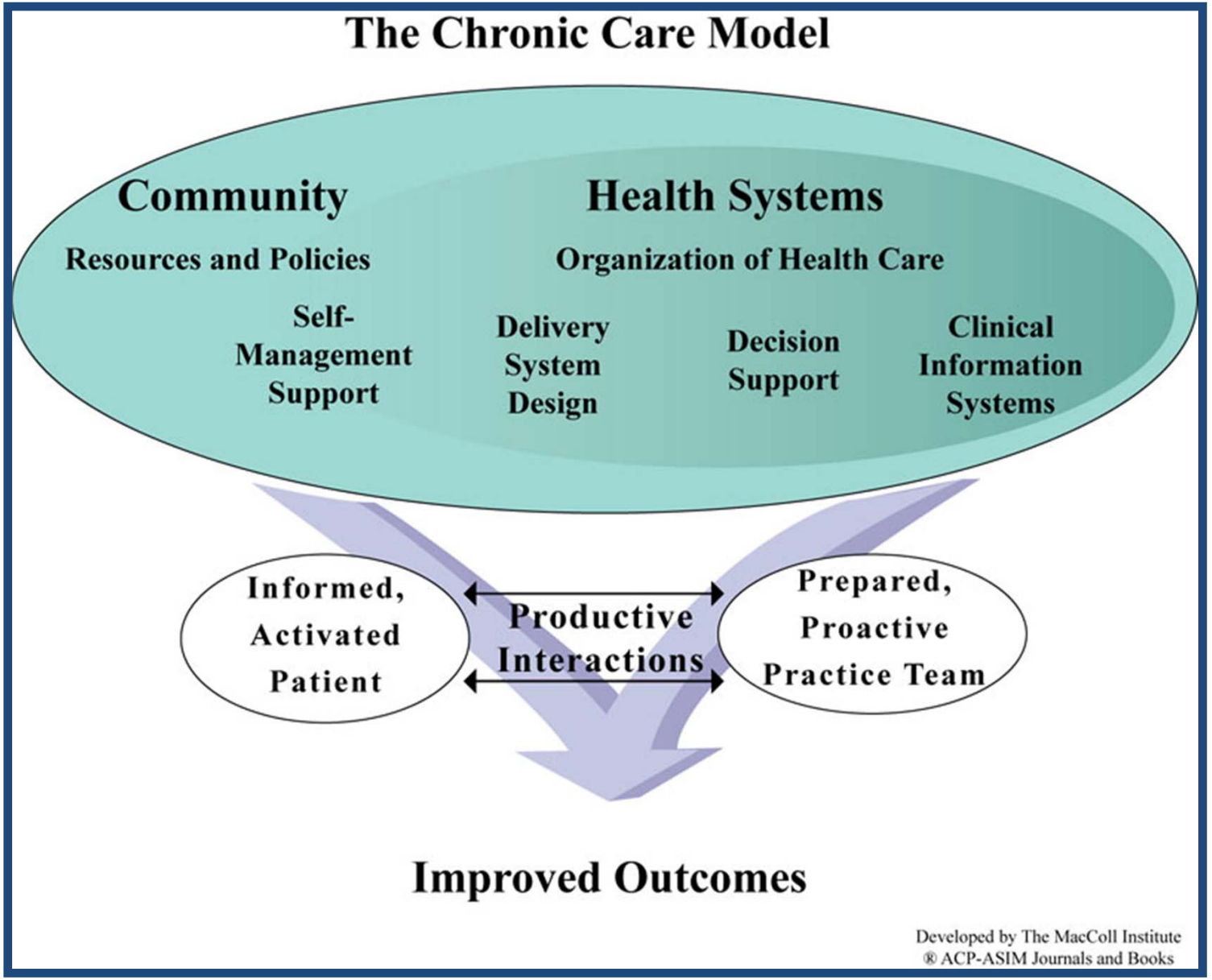
OUT

Evidence-Based Behavioral Health Integration

A New Perspective on Chronic Care

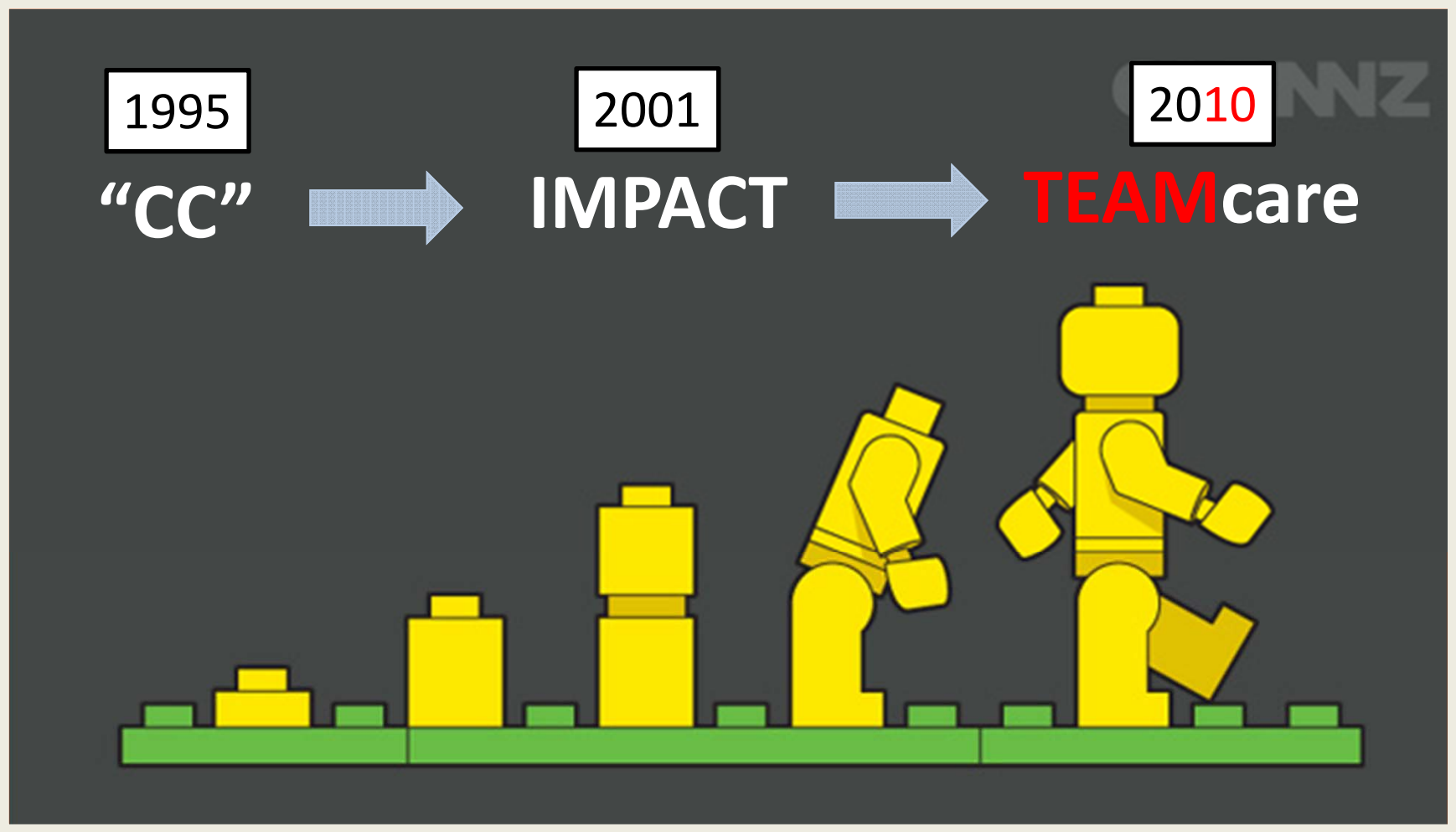
Erik Vanderlip MD MPH
Assistant Professor
University of Oklahoma School of Community Medicine
Medical Informatics and Psychiatry

1



Bodenheimer, T., Wagner, E. H., & Grumbach, K. (2002). JAMA. 288(14), 1775–9.

Iterations of the Chronic Care Model: "Collaborative Care"



Name	A1c (initial)	A1c (recent)	PHQ9 Initial	PHQ9 Recent	SBP Initial	SBP Recent	Non-HDL Initial	Non-HDL Recent
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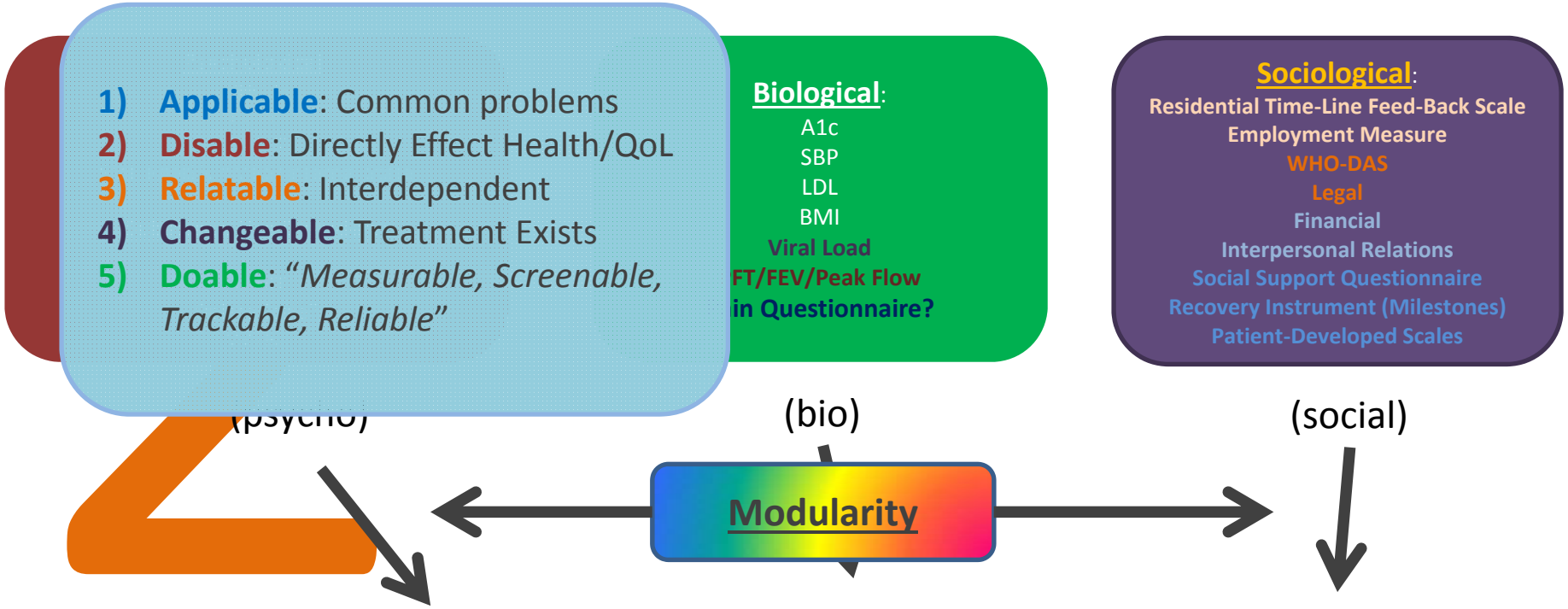

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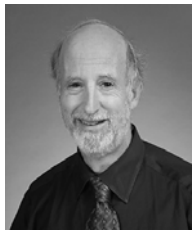

thx

Questions?